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ALPHABETICAL RECORD.

ENGINEERS AND SUPERINTENDENTS, ETC.

AND THE

PRINCIPAL PUBLIC WORKS,

ON WHICH THEY HAVE REPORTED OR BEEN EMPLOYED,

CANADA,

1779 TO 1891.

BY

G. F. BAILLAIRGÉ

Deputy Minister of Public Works.

1891

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ALPHABETICAL RECORD.

ENGINEERS AND THEIR ASSISTANTS, ETC., EMPLOYED

ON

PUBLIC WORKS, CANADA,

1779 to 1891.

*N.B.—This Record does not contain the names of the Government Railway
Engineers.*

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ENGINEERS

Employed on Public Works, Canada, 1779 to 1891, so far as ascertained, exclusive of Railways.

Engineers.	Works.	Dates of Employment, &c.
Allison, J. C.	Assistant Engineer, Harbours, Maritime Provinces. Resident Engineer, St. John, N.B.; Works and Surveys, King's, Annapolis, Digby, Yarmouth, Shelburne, Queen's and Lunenburg Counties, Nova Scotia.	Oct., 1883-88. July, 1889-90.
Almoy, J.	Report on Saut-Ste-Marie Canal to Legislature, state of Michigan previous to. <i>See</i> Report of Hon. H. H. Killaly.	1847. 30th March, 1847.
Anderson, W. P.	Chief Engineer, Department of Marine and Fisheries. Member Canadian Society of Civil Engineers.	23rd Oct., 1874-91. 20th Jan'y, 1887.
Armstrong, Capt. Charles Logie.	Lake St. Peter, dredging, &c.	1857-67.
Arnoldi, John Roger.	Chief Mechanical Engineer. Superintendent dredge vessels and dredging, Ontario and Quebec. Mechanical Engineer, Public Buildings, Ottawa. Member Canadian Society of Civil Engineers.	6th Dec., 1859. 1880-91. 7th July, 1883-91. 25th June, 1887.
Asterbrooks, Captain.	Engineer Royal Artillery, first attempt to place a cable for Suspension Bridge at Ottawa.	1826.
Atherton, Charles.	Lake St. Peter, dredging, in charge of surveys and investi- gations. Specification of dredge vessels, &c. Superintending Engineer, Lake St. Peter improvements.	1842-43. 9th Sept., 1842. Aug., 1843.
Austin, G. F.	Chantry Island breakwater, Lake Huron, &c. Harbour Surveys, Maritime Provinces. River Ottawa bridge site survey at Portage du Fort, &c.	1875-82. 1883-91. 1885-86.
Aylmer, J. A.	Lachine Canal enlargement, engineering staff. St. Anne Lock do do. Resident Engineer, new locks and canals, River Trent— construction. Member Canadian Society of Civil Engineers. A partner in the contracting firm of Manning & McDonald, Toronto.	July, 1873-79. do 1880-81. June, 1882-88. 20th Jan'y., 1887. 1888-91.
Baddeley, Capt. R. E.	Commissioner with Hon. John Macaulay, Surveyor General, and John S. Cartwright, under Act of Upper Canada Parliament, for ascertaining practicability of making a navigable communication between the Ottawa and Lake Huron. They reported to Sir George Arthur, subjoining thereto the report of David Taylor, David Thompson and William Hawkins, the per- sons they employed to survey the route. <i>See</i> subsequent reports on surveys by Walter Shanly and James Stewart, in 1857-58, and by Thomas C. Clarke, 1859-60. <i>See</i> Appendix 30, pages 837 to 847, by G. F. Bail- laire in General Report of Public Works, 1867-82.	4th March, 1837.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Baillairgé, Charles	Architect of numerous public buildings, churches, residences, mills, manufactories, &c. Architect and Engineer, Public Works, Quebec and Ottawa Architect of, and report on new gaol, Quebec. Joint Architect, Ottawa Parliament Buildings. Treatise on Geom., Trig., Rect. and Sph., with tables, &c., 900 pages. City Engineer, Quebec. New treatise on Stereometry. First medal of Society of Arts and Manufactures, Paris, and thirteen medals and seventeen diplomas awarded by France, United States, Russia, Spain, Italy, Japan, Brazil, Canada, &c. Princess Louise Docks, Quebec, plans submitted, &c. Inspecting Engineer North Shore Railway, Quebec to Montreal, and Piles Branch, River St. Maurice. Fellow Royal Canadian Academy of Arts. Fellow Royal Society of Canada. Member of Canadian Society of Civil Engineers. Inspecting Engineer of Quebec and Lake St. John Railway for Municipal Council of Quebec. Engineer of New Aqueduct, Quebec. Member of the Society of Sciences, Arts, Letters &c., London, Eng. Member of "l'Académie des Palmiers," France. Design for proposed London Tower, 1,600 feet high.	1840-60. 1860-63. 11th Feb., 1863. 1863-65. 1866. 6th Oct., 1866-91. 15th March, 1874 to 1884. 1874-76. 1875-81. 1880. 7th March, 1882. 3rd Feb., 1887. 1883-91. 1885-91. Dec., 1886. 12th May, 1889. 1890.
Baillairgé, George Fred.	Canals, harbours, roads, Provinces of Quebec and Ontario. First General Report on Public Works, with James Stewart, C. E. Laid out the first slides built on the River St. Maurice, at Grand-Mère and Shawenegan Falls. Surveys—Piers below Quebec, River l'Assomption, &c. Resident Engineer, Junction and Williamsburgh Canals. Ordnance canals, survey and plans of hydraulic lots at Cascades, Split Rock, Cedars, and Côteau du Lac, with estimates. Chambly and Beauharnois Canals, surveys and claims. Saguenay, Metapédine, Gaspé and Temiscouata Roads, &c. Second General Report on Public Works. Cornwall, Beauharnois Canal weirs, &c. Channel sounded, River St. Lawrence, between Quebec and Montreal. Baie Verte Canal Survey, proposed route and design. Location and design of lock, Lakes Muskoka and Rousseau. Slides and booms, Rivers Saguenay, St. Maurice and Trent. Assistant Chief Engineer Public Works, Canada. Proposed Cedars Canal and River St. Lawrence survey. Fort Frances Lock, Rainy Lake, and survey harbour Works, Quebec. Superintending Engineer Canals, Province of Quebec. Deputy Minister Public Works, Canada. Third General Report on Public Works. Classified collections of specifications of the Public Works of Canada, chiefly from. New Map of Canada, and Book of Reference containing Historical Synopsis—showing its resources, climate, &c., &c., and comprising the various Arctic discoveries up to. Member of Council, Canadian Society of Civil Engineers.	22nd Sept., 1844. Up to 1849. Sept.-Oct., 1852. 1846-1853. 1853-1856. 1857. 1849-1864. 1858 to 1866. 1st July, 1867. 1856-1870. 1863-1869. Aug., 1870-73. June, July, 1866. 1863-78. 5th July, 1871-79. 1872-73, 1875-76. 1875-76. 22nd June, 1877-79. 4th Oct., 1879-91. 1867-82. 1841 to 1890. 1890-91. 1889-90.
Bailey, C. E.	From Kingston, Ontario, Provincial Engineer, P.E.I. Died 1882. No successor appointed.	1877 to 1882.
Baird, N. H.	Engineering Staff, Rideau Canal. Member of Institute of Civil Engineers, England.	1828-32. 1831.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Baird, N. H.	Projected Murray Canal, Lake Ontario..... Report on Beauharnois Canal project..... do on River Trent navigation and Sup. Eng. of Works. Locks 134 by 33 feet; 5 feet water on sills. Work commenced 1837, and completed chiefly in 1844. do on Welland Canal enlargement..... Work commenced 30th November, 1824. Canal first opened 30th November, 1829. Original wooden locks 110 by 22 feet, with 7½ feet of water on sills. Reports on Roads and Bridges, Eastern Townships, P.Q.. Died, Aug., 1849, at Brattleboro', Vt.	1833. 1835. 1833-43. 1837. 1846-47-48.
Barclay, F. J.	Engineering Staff, St. Peter's Canal enlargement, Cape Breton	1875-81.
Barrett, Alfred	Resident Superintending Engineer, Welland Canal..... Report Burlington Bay Canal	10th May, 1826. 1826.
	Report on inland navigation between Lakes St. Francis and Ontario, also on Rapide Plat Canal project	1830. 7th Oct., 1843.
	Grand River Navigation—Report	1841.
	Lachine Canal, 1st enlargement, and St. Ours lock and dam, &c.	1842-43.
	Assistant Principal Engineer, locating Welland Canal .. Surveys, River St. Charles and bridges, River Ottawa, at Vaudreuil, &c. Died, 18th July, 1849, at Montreal.	1843-48.
Barry, P. J. S.	Royal Engineer Corps. Report and estimate proposed St. Peter's Canal, Cape Bre- ton, N.S.	31st Aug., 1853. 1854.
	Canal commenced by Nova Scotia Government. do completed by Dominion Government.	5th Aug., 1869.
	This canal connects Great Bras-d'Or Lake and St. Peter's Bay, on the Atlantic. It is 2,400 feet in length, and has 1 tidal lock of 200 × 49½ × 18 feet depth of water on sills of lock, which has 4 gates. It was enlarged by Dominion Government, 1875 to 30th April, 1881. Cost of construction .. \$ 156,523 32, to 30th June, 1867. Cost of completion and enlargement 496,797 80, to 30th June, 1882.	
	Total.....	\$653,321 12
	(See General Report, Public Works, 1867-82.) \$677,267.27 was the total expenditure on this work to 30th June, 1890.	
Bayfield, Admiral Henry W., R.N.	In charge of the Admiralty Survey of the River and Gulf of St. Lawrence..... Made reports respecting the deepening of Lake St. Peter..	1817-60. 1831-35-46.
Beaudry, J. A. U.	Engineering Staff, Public Works, harbour surveys, P.Q.. Member Canadian Society Civil Engineers.....	1883. 20th Jan., 1887.
Beckwith, Adolphus G.	Engineer, Department Public Works, N.B..... City Engineer, Fredericton, N.B. Provincial Engineer, New Brunswick	1872-91. 1872-91. 1881-91.
	Member Canadian Society Civil Engineers.	20th Jan., 1887.
Bélanger, Ernest	Assistant Engineer, harbour surveys, P.Q.	1884-89.
Belcher, A. J.	Assistant Engineer, new canal works, River Trent.....	1882-88.
Belcher, Thos. Deaves	Superintending Engineer, River Trent, canals, locks, slides, dams and booms, from Trenton, Lake Ontario, up to Lake Scugog.....	July, 1873, to 1884.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Bell, Andrew	Engineer.—Survey Carillon and Grenville Canals Enl. . . New Carillon Canal on north side, also new slide on south side of the River Ottawa, and dam across the River Ottawa, Resident Engineer	June, 1870-72. June, 1872, to Nov. '85 1885-1891.
Bell, Capt.	Superintending dredging ship channel, Lake St. Peter . . . Died fall of 1856.	1852-56.
Bellingham, A.	Assistant Resident Engineer, Lachine Canal, third enlargement, upper division	1873 to 1878.
	Left service 1st October, 1878.	
Bent, Capt., R. E.	Survey and Report Navigation St. John River, N.B.	1850.
Bender, E. P.	Engineering Staff, Public Works, harbours, Province of Quebec, &c.	1880 to 1887.
Bennett, William.	Resident Engineer, Esquimalt Graving Dock, Vancouver Island, British Columbia	1st Sept., 1883, to Jan., 1888.
Berlinguet, F. X.	Member Canadian Society of Civil Engineers.	24th Feb., 1887.
Berlinguet, Thos.	Plans, specifications and estimates, Quebec Harbour Works First employed on survey Princess Louise Docks at Quebec. Survey, Harbour of Three River, &c., P.Q.	15th Dec., 1874. 1875-76. 1881-82.
	Assistant, Hydrographic Survey, Pointe aux Trembles to Cap Charles	July, 1883.
	Resident Engineer, River St. Maurice, and Engineer Harbour Commissioners, Three Rivers, &c.	1884-89.
	Engineer in charge, lock and dam, River Yamaska, and various works at Sorel, River St. Francis, River Nicolet, and the St. Maurice Works.	1888-91.
	Member Canadian Society of Civil Engineers.	24th Feb., 1887.
Bertrand, Joseph Têtu. .	Engineering Staff, Public Works, Ottawa, and harbour surveys, &c.	1884-89.
	Assistant Engineer, Lévis Railway.	1886-87.
	Student Canadian Society of Civil Engineers.	20th Jan., 1887.
	Assistant Engineer Surveys, Public Works	1889.
Bertrand, L. N.	Engineering Staff, Public Works, surveys, Quebec and Ontario	1884.
Billyard, W.	Assistant Engineer, Sarnia and Brantford Road, etc.	1843.
Blanchet	do do Chambly Canal.	1843-49.
Boivin, Elzéar	Harbour Survey, S.W. side, Lake St. John, P.Q.	1889.
Bolton, Capt. Daniel, R.E.	District Engineer, Rideau Canal (Bytown District)	1832-35.
	Report on tolls, Chaudière Bridge	1833.
	Description of dam at Long Island, on the Rideau Canal, built in 1836	1839.
	Was Major in 1839.	
Bonnycastle, Capt. R.H., R.E.	Report on preservation of York harbour (Toronto)	14th Jan., 1864.
Boswell, St. G.	Engineering Staff, Graving dock at Lévis, and Princess Louise Basins, at Quebec	1876-88.
	Member of Council, Canadian Society of Civil Engineers. .	1889.
	Resident Engineer, Quebec Harbour Works	1889-91.
Boulay, Philéas.	Engineering Staff, canals, &c.	15th March, 1870-71.
	Assistant, Cedars Canal survey	1872-76.
	Lachine Canal enlargement.	1877-80.
	At head-quarters, Department Railways and Canals, &c. .	1880-89.
	Died, 16th January, 1890.	

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Boxer, Capt., R.E.	Commander of H.M.S. "Hussar," surveying Gulf of St. Lawrence. Survey and chart of River St. Lawrence—Report on St. Lawrence canals. Report on Beauharnois Canal.	1829. 1844. 4th June, 1845.
Boyd, John Edward ...	Resident Engineer, European and North American Railway, by Government of New Brunswick. Chief Engineer and General Superintendent of E. and N.A. Railway. Assistant Engineer, Department Public Works, Ottawa. Chief Engineer of Government Railways, Prince Edward Island, for Provincial Government. Survey and report on navigation of River St. John, N.B. Resident Engineer, North Shore Railway, by Government of Quebec. Engineer in charge of works, Maritime Provinces. Engineering Staff at head-quarters, Ottawa. Resident Engineer, Princess Louise Basin, Quebec, and graving dock, Lévis, for Public Works Department. Died at Quebec and interred at Ottawa, Nov., 1887.	1856-60. Dec., 1860-67. 1st Sept., 1867-71. 10th May, 1871-75. 16th Nov., 1870. 1876 and 1879. May, 1880, to June, 1881. 1881-83. Sept., 1883, to Nov., 1887.
Breen, Thomas ...	Engineering Staff, and afterwards in charge of various Public Works, harbours, &c., Province of Quebec. Member Canadian Society of Civil Engineers. Engineering Staff, Public Works.	1882-91. 25th June, 1887. July, 1867.
Brophy, G. Patrick.	Assistant Superintending Engineer, Ottawa River works. Superintending Engineer do do J. B. Brophy acted as Superintendent, 1st July, 1879, to 1880, during absence of G. P. B., on C.P.R.	1st July, 1873. 1st July, 1876-91.
Brophy, John Byrne.	Assistant Superintending Engineer, Ottawa slides and booms. Superintending Engineer, Ottawa Slides and Booms. Resident Engineer on C.P.R. Railway. Divisional Engineer, Cape Breton Railway.	1st Jan., 1876. 1st April, 1879. 1st April, 1880. 28th June, 1886.
Brotherton, A. S.	Engineering Staff, Public Works, harbour surveys, &c., below Quebec.	1881-82.
Browne, Edward.	Report on back-waters, Newcastle District.	18th Feb., 1858.
Browne, J. V.	Engineer for Contractors, Quebec Harbour Works.	1875.
Brown, Gustavus A.	Assistant Engineer, Public Works, Maritime Provinces. Resident Engineer, St. John, N.B., Public Works and surveys, Prince Edward Island, and the Counties of Cumberland, Colchester, Hants and Halifax, Nova Scotia.	1st July, 1872-83. July, 1888-91.
Bruyères, Capt., R.E.	Report on claim in connection with Saut-Ste.-Marie Canal constructed on Canadian territory prior to 1802, by Messrs. McTavish, Frobiisher & Co., on behalf of the "North-West Fur Trading Company". This claim was made by Messrs. Forsyth, Richardson & Co., and by Messrs. Parker, Gerrard, O'Gilvy & Co., of Montreal, 15th April, 1802, and by John Mure, of Quebec, 17th April, 1802. Report on progress of new canal at Cascades, to replace the two first canals built, on the same peninsula, between 1779 and 1783. See Report Canadian Archives, by Douglas Brynner, Ottawa. See By, Clarke, Donatti, Finlay, Mann, King and Twiss, herein.	Prior to 23rd Dec., 1803. 16th Jan. 1805. 1886.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Buchanan, W. O.....	Assistant Engineer Welland Canal	1843.
Buck, Walter M.....	Provincial Engineer, Province of New Brunswick..... Engineer, Miramichi Section, I. C. R	Prior to 1881. do 1876.
Burnett, Thomas.....	British Engineer, made survey and plans of Lachine Canal. Superintending Engineer, Lachine Canal Works..... Canal commenced, 17th July, 1821. do opened in August, 1824. Depth, $\frac{1}{2}$ feet water on lock sills. Stone locks, 100 by 20 feet	Spring of 1820. 1821-26.
Burwell	Survey of Goderich Harbour.....	1827.
By, Lieut.-Col., R.E....	Report on Cascades, Mill Rapids and Split Rock Canals.. Superintending Engineer of Rideau Canal, Bytown (Ottawa) to Kingston..... Rideau Canal, commenced. Report on Canadian canals and defences of Canada..... do on the Rideau Canal..... First steamboat "The Pumper" passed through the Rideau Canal..... Rideau Canal completed..... 126 $\frac{1}{2}$ miles long, with 47 locks of 134 by 33 feet, and 5 feet water on sills of locks. Total ascent from Ottawa to Upper Rideau Lake, 292 feet 3 inches. Total descent from Upper Rideau Lake to King- ston, 165 feet 4 inches. Ottawa River, below Lake Ontario, per Royal Engineers, 128 feet 11 inches..... Ottawa River, above the sea, 110 feet. Total cost of Rideau Canal to the British Govern- ment, according to Ordnance documents, in- cluding cost of land and pay of establishment, \$3,911,701.47. The Rideau Canal was under the superintendence of the following Royal Engineers, until it was transferred by the Imperial to the Canadian Government, viz.:— Major Bolton, Lieut.-Col. Thompson, Capt. Charles E. Ford, Lieut.-Col. Chater and Mr. Harvey. The management of the Ottawa and Rideau Canals was transferred to the Department of Public Works by an Order in Council..... J. S. Killaly, first Superintending Engineer, appointed by Canadian Government..... J. D. Slater, second Superintending Engineer, appointed by Canadian Government..... F. A. Wise, third Superintending Engineer, appointed by Canadian Government.....	24th April, 1805. Sept., 1826. 21st Sept., 1826. 1826. 6th July, 1827. 29th May, 1832. Aug., 1832. 1832 to 1857. 3rd March, 1857. 1857 to 1858. Oct., 1858 to Oct., 1872 Oct. 1872-1891.
Carroll, Cyrus.....	Engineer in Staff, Public Works, harbours, Ontario.....	1884-1886.
Cartwright, John S., R.E.	Commissioner with Hon. John Macaulay, Surveyor General of Upper Canada, and Capt. Baddeley, R.E., for ascertaining practicability of a navigable route between the Ottawa and Lake Huron..... See Baddeley, Hawkins, Macaulay, Taylor, Thomp- son, according to an Act of the Parliament of Upper Canada, of 4th March, 1837. See App. 30, pp. 837 to 847, by G. F. B., Public Works Report, 1867-82.	1837.
Casey, W. R.....	Sub-Engineer on the Germantown and Philadelphia Rail- way and on the New York Crofton Water Works..... Assistant Engineer on the Long Island Railway, N.Y..... do..... Chamblay Canal	Prior to 1834 do 1834.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Casey, W. R.	<i>at St. John's</i> Chief Engineer of Railway, St. John to Laprairie, from its commencement to its completion This was the first narrow-gauge railway constructed in Canada; its rails were of flat iron; passenger cars resembled those now used, but shorter and narrower. Made numerous surveys, both as Assistant and Chief Engineer, in various parts of Upper and Lower Canada and several of the United States..... Cedars Canal route proposed on north side of River St. Lawrence. Plan, profile and estimate.....	1834-36. Prior to 1842. 1842.
Chaloner, Charles E.	Public Works, surveys, Manitoba and North-West Territories, &c..... Assistant of R. Steckel, Geodetic survey, River St. Lawrence, between Montreal and Quebec, and River Richelieu, &c., and in Office at Ottawa..... Member Canadian Society of Civil Engineers.....	1882-83. 1884-91. 24th Feb., 1887.
Champion, A. J.	Engineering Staff, Public Works, Maritime Provinces....	1873-74.
Charbonneau, Maxime.	Engineering Staff, Public Works, Manitoba and North-West Territories, River North Saskatchewan..... Died February, 1887.	1885-86.
Chater, Lieut.-Col.	Royal Engineer, succeeded Capt. Chas. E. Ford, R. E., as Superintending Engineer of Rideau Canal, under Imperial Government.	
Childe, Capt. John.....	Member of Board of Examiners appointed to report on increased accommodation in the Harbour of Montreal and Navigation of the St. Lawrence, &c..... Died February, 1858. See Kirkwood and McAlpine.	9th Nov., 1857.
Cimon, Simon	Engineering Staff, Public Works, harbours, Quebec..... Resigned 11th Aug., 1887. Elected member for Charlevoix for House of Commons, 28th Sept., 1887. Member Canadian Society of Civil Engineers.....	1881-87. 20th Jan., 1887.
Clark, C.	Engineering Staff, New Canal Works, River Trent.....	1882 to 1886.
Clarke, Isaac Winslow....	Deputy Commissary General. Superintendent, Cascades, Split Rock and Côteau du Lac Ordnance canals. Died 7th July, 1822. For details respecting these works, see Col. Gother, Mann and Lieut. Col. John By, &c., also General Report on Public Works, 1867. These canals were not built under the French, as stated according to tradition at that time.	1809-22.
Clarke, Thomas C.	Ottawa River navigation to Lake Huron, survey..... Report on projected ship canal.....	1859. 2nd Jan., 1860.
Cliff, John	Superintendent Harbour Works, Montreal.....	1832 to 1845.
Clowes, Samuel.....	Rideau Canal, proposed works..... Welland Canal do Galops, Rapide Plat, Farran's Point and Cornwall Canals, General Report and Estimates submitted.....	1823. 1824. 1826.
Clowes, James.....	Survey and Report on Welland Canal..... do do Rideau do	10th Aug., 1824. Sept., 1824.
Cole, Capt., R. E.....	<i>at Cornwall</i> Consulting Engineer, Cornwall Canal construction..... Canal commenced in 1835, opened December, 1842, completed June, 1843.	1833.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Cole, Major P., R. E.	Report on causes of floods, River St. Lawrence, Montreal.	29th June, 1841.
Conway, John	Engineering Staff, Lachine Canal enlargement	1871-83.
	Assistant Engineer, St. Gabriel Basin, L.C.	1883-86.
	Engineer, electric light apparatus, Lachine Canal, Montreal.	1886-91.
Cornell, J.	Engineering Staff, Public Works, at Montreal, Lachine Canal enlargement.	1843-47.
Coste, Louis.	Engineering Staff, Public Works, Harbours, &c., Prov. Ontario, Quebec and Manitoba.	1884-91.
	Acting for Chief Engineer, Public Works, Canada.	1890.
	Member Institution of Civil Engineers, Great Britain.	6th Feb., 1893.
	Member Canadian Society of Civil Engineers.	20th Jan., 1887.
Coutlée, Chas. R. F.	Graduated at Royal Military College, Kingston, Ontario.	June, 1886.
	Engineering Staff, Canadian Pacific Railway.	Oct., 1886, to Feb., 1887.
	Engineering Staff, International Railway. Short Line of C.P.R. from Montreal to Province Line, thence across State of Maine to New Brunswick.	May, 1887, to Oct., 1888.
	Engineering Staff, projected canal, Lake St. Francis to Lake St. Louis.	1st May, 1889-91.
	Student Canadian Society of Civil Engineers.	22nd March, 1888.
Cowley, J. G.	Sub. Assistant Engineer, Beauharnois Canal.	1843.
Crawford, William.	Survey, Beauharnois Canal, enlargement projected.	1872 to 1876.
	Assistant Engineer, Welland Canal, deepening to 14 feet.	1st June, 1886, to 1st August, 1887.
	Chief Asst. Resid. Eng. Saut-Ste.-Marie Canal, Canada.	August, 1887-91.
	First survey made in 1852, by S. Keefer, Chief Engineer of Public Works.	
	Member Canadian Society of Civil Engineers.	20th Jan., 1887.
Crawley, Capt. H. O., R.E.	Reports on Baie Verte Canal project, to unite the Bay of Fundy with the Gulf of St. Lawrence.	19th Jan., 1843, and 14th and 19th Mar., 1843.
Cull, James.	Superintendent Yonge Street Macadamised Road, Toronto.	1836.
	Assistant Engineer, Sarnia and Brantford Roads, &c.	1843.
Cunningham, Granville C.	Resident Engineer, Prince Edward Island Railways, Assistant Engineer in charge of harbours, &c., Prince Edward Island, for Public Works Department.	April, 1875 to 1878.
	Member of Council Canadian Society of Civil Engineers.	1889.
Curran, Veysie.	Assistant Resident Engineer, Southern Division, Welland Canal enlargement.	Nov., 1873, to 1st Jan., 1889.
	Ast. Resident Engineer, Saut-Ste.-Marie Canal, Canada.	1st March, 1889-91.
Cusack, Rheddy.	Late Assistant Engineer to the Right Hon. the Director-General of Inland Navigation, Ireland.	
	Surveys of Ottawa River and Welland Canal.	1824-27.
D'Amours, J. W.	Engineering Staff, Public Works, British Columbia, Victoria, &c. Survey mouth of Fraser River, British Columbia.	1885.
Dawson, Simon J.	River St. Maurice, slides and booms.	1852-57.
	Route Lake Superior to Fort Garry, survey commenced.	1857.
	Work commenced.	1857.
	Col. Wolseley and troops passed.	1870.
	Work completed for passage of immigrants.	1871.
	Member of the House of Commons for Algoma.	1878-91.

ENGINEERS Employed on Public Works, Canada—*Continued.*

Engineers.	Works.	Dates of Employment, &c.
Deniel, Emile.....	Grenville Canal enlargement..... Panama Canal, Central America.....	Sept., '72, to Feb. '87. Jan., Feb., March, 1888.
	Chief Assistant of Thos. Monro,—examination of projected canal routes, Lake St. Francis to Lake St. Louis.....	1889-91.
	Member Canadian Society of Civil Engineers.....	20th Jan., 1887.
Denison, Lieut. W., R.E.	Description of Rideau Canal dams, locks, &c., and of bridges across the River Ottawa.....	1839.
Dérome, J. B.....	Piers, &c., Province of Quebec, Public Works Department	10th July, 1864.
Derbishire, Stewart.....	Engineering Staff, employed on harbours and roads.....	1873-77.
Desbarats, G. J.....	Carillon New Canal, slide and dam, River Ottawa..... Ste. Anne Lock, etc..... Headquarters, Depart. of Railways and Canals, Ottawa.....	Aug., 1879-83. 1883-85 Jan., 1885-91.
Des Brisay, L. P. W....	Engineering Staff, Public Works, Calgary, Bow River bridge	18th March, 1887, to 30th April, 1888.
Desjardins, C.....	On survey ship channel between St. Roch and Ile aux Coudres.....	1881.
Dickinson, John.....	Appointed Commissioner to enquire into cause of floods between Montreal and Quebec.....	4th Oct., 1873.
Dickinson, Jos. E., M.A., Trinity College, Dublin	Assistant Engineer, Northern Division, Welland Canal, 2nd enlargement..... Died in Europe.....	15th July, 1874, to 30th Dec., 1879.
Dixon, G. G.....	Assistant Engineer St. Lawrence Canals.....	1843.
Donatti, L.....	Deputy Assistant Commissary General. Superintendent, Cascades, Split Rock and Côteau du Lac Ordnance Canals..... For details, see Bruyeres, By, Clarke, Mann, Twiss, &c.....	July, 1820.
Doré, J. E.....	Engineering staff, canals, &c., P.Q..... St. Zotique road dyke, protection wall on north shore of Lake St. Francis..... Left service.....	1884-86. 1884-85. 1st Jan., 1886.
Douglas, Robert C.	Engineering Staff, Ottawa—canals, &c.....	July, 1872-91.
Drummond, —, R.E....	Superintending Engineer, first Suspension bridge, Ottawa.	1826.
Duburger, C. C.....	Assistant Engineer, Public Works, harbour surveys, north shore River St. Lawrence, below Quebec.....	1881.
Duchesneau, A.....	Engineering Staff, Lachine Canal enlargement, &c., Montreal Division..... Superintending Engineer's office, Montreal.....	July, 1872-81. Nov., 1881-91.
Dumais, Horace.....	Harbour surveys, Lake St. John.....	1889-90.
Durnford, Elias Walker, Col., R. E.....	Lt.-Col., 1817-22; Col., 1828. Commanded R. Engineers on Ordnance Canals in Canada. Succeeded by Gustavus Nicolls.....	1827-31. July, 1831.
DuVernet, Lieut.-Col. Henry.....	Royal Staff Corps, Imperial Government. Capt., 1820; Major, 1827, and Lieut.-Col..... General Superintending Engineer, construction of Grenville Canal, &c., under Imperial Government..... Report on Grenville Canal..... Report on Chute à Blondreau and Carillon Canals.....	1833. 1819-29. 20th Nov., 1820. 26th Dec., 1827.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
DuVernet, Lieut.-Col. Henry	Grenville Canal, etc. Left Canada..... The Grenville, Chute A Blondeau and Carillon Canals, on the north side of the River Ottawa, were designed and constructed by the Royal Staff Corps of Engineers for the Imperial Government. The records respecting these canals were kept in the Ordnance Office at Montreal, and were destroyed by fire in 1852. It appears, however, that the "Grenville Canal" was completed in 1829, the "Chute a Blondeau" in 1832, and the "Carillon" in 1833, and that on the 24th of April, 1834, they were opened, and the steamer "St. Andrew" made the first passage through them. These old canals were 8 miles in length, with 11 locks of 107 to 130½ feet, by 32 to 33 feet and 6 feet depth of water on sills of locks. Cost not ascertained. They were placed under control of Department of Public Works, Canada, 3rd March, 1867. They have since been enlarged, and are now 6½ miles in length, with 7 locks of 200 by 45 feet and 9 feet depth of water on lock sills. The enlargement was commenced in 1871 and completed 27th May, 1882. Cost of enlargement, up to 30th June, 1882, \$975,142.54.	1827-33. 1834.
Eads, Jas. B., U.S.	Report on Toronto Harbour proposed improvements Died, 8th March, 1887.	13th Dec., 1831. 14th March, 1882.
Elliot, Geo. Augustus ...	Arbitrator Rideau Canal Claims Resigned	15th Aug., 1839. 1st Dec., 1834.
Elliot, J. S.	Ordinance Commissioner; negotiated purchase of lands for Rideau Canal prior to	1826.
Fafard, Eugène.	Engineering Staff, Public Works, surveys, P.Q.	1888-90.
Fafard, F. X.	do do do	1881.
Faga, J. M.	do do do Ontario	Sept., 1874-80.
Fairbanks, Charles Wm.	Born at Halifax, N.S. Educated at King's College, Windsor, N.S. Entered office of Sir John McNeil, C.E., England. Projected Halifax Waterworks. Superintending Engineer—construction Halifax Waterworks Halifax waterworks commenced. Water reached North-West Arm. do used in the city, summer of Superintending Engineer—Shubenacadie (Chikabena-kady) Canal. Survey and Report on projected Canal, St. Peters, C.B. Consulting Engineer, waterworks, Charlottetown, P.E.I. Report on Tracadie Harbour to Government of N.S. do projected railways, N.S. do plans and estimates, waterworks, St. John, N.B. Died at Halifax, N.S.	4th Dec., 1821. 1840. 1843. 1845-1848. July, 1846. Nov., 1847. 1848. 1847-1858. 1850-52. 1850. 1851. 5th Nov., 1851. 1851. 11th January, 1888.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Work.	Dates of Employment, &c.
Fanshaw, Col., R. E....	Commissioner Rideau Canal.....	1828.
Farijana, F. C.....	Proposed Cedars Canal survey on north shore of River St. Lawrence House Harbour, Magdalen Islands, Gulf of St. Lawrence. Harbours, Ontario, &c.....	1872-73. 1874-75. 1875-81.
	Died, May, 1882.	
Faulkner, William.....	Assistant of C. W. Fairbanks on surveys projected rail-ways, N.S. Report to Govt. of Nova Scotia on Shubenacadie (Chikab-nakady) Canal.....	2nd June, 1851. 15th Dec., 1852.
Fellowes, Charles L.....	Served on examination of part of Dawson Route..... Engineering Staff, surveys, &c., Welland Canal, 2nd en-largement..... Assistant Engineer, north division, Welland Canal, 2nd en-largement.....	1869. 1870-76. 1st July, 1876, to 30th May, 1882.
Finlay, John.....	Deputy Assistant Commissary General..... Superintendent Division Rideau Canal..... do St. Lawrence Canals, built by Imp. Govt.. Gives length and number of locks, &c., of the Cascades, Split Rock and Côteau du Lac Canals in a letter dated. See Canadian Archives, under D. Brynmner's cus-tody, at Ottawa, page 121, vol. 47.	1827. 1823 to 1829. 7th June, 1828.
Fleming, Peter.....	Recommends dredging River Richelieu so as to avoid build-ing lock and dam at St. Ours..... Dredging of River Richelieu commenced..... Consulting Engineer, Williamsburgh and Cornwall Canals. Engineer employed by Commissioners of Chambly Canal.. These Commissioners were appointed by Act, 3rd Geo. IV, Cap. 41:—Samuel Hatt, W. Macrae, Gabriel Marchand, R. Boileau, Timothée Fraser, 1829. Survey, plans and estimates submitted to Commissioners.. Probable cost estimated at £54,167 6 0..... This estimate submitted to an officer of the Royal Engineers, who reported thereon at the instance of Sir James Kempt, and estimated the pro- bable cost at £96,745. This last estimate was submitted to Messrs. Hanlon and Hopkins, Civil Engineers, who estimated the probable cost at £60,300. Canal commenced..... Canal opened throughout, in the spring of..... Length, 12 miles; 9 locks, 118 to 125 by 23½ to 23½ feet, with 7 feet depth of water on sills; breadth of canal, at bottom, 36 feet, at top, 60. In 1840, the total cost was estimated at \$404,000. The total cost of the works, from their commence- ment to the 30th June, 1867, including im- provements, was \$634,711.76. The original estimate was based on locks 100 by 20 feet, with 5 feet of water on sills of locks.	1829. 1830-31. 1834. 1830. Oct., 1831. 1843.
Folsom, C. W.....	Engineer in charge of construction, St. Peter's Canal, Cape Breton, N.S.....	1854.
Forbes, W. B., Dep. Com. Gen.....	Superintendent St. Lawrence Canals, built by Imp. Govt } At Cascades, Split Rock, Côteau du Lac, etc..... }	1830 to 15 June 1847.
Ford, Capt. Chas. E., R.E.	Superintending Engineer, Grenville Canal..... Succeeded Lieut. Col. Thompson, R.E., as Superintending Engineer of the Rideau Canal, under Imperial Govern- ment. Left Canada.....	1846. 1853

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Forsyth, Robert	Superintending Engineer, Montreal Harbour and Ship Channel Improvement, River St. Lawrence, Montreal to Quebec.....	1855 to 1864.
Foulis, Robert.....	Report on River St. John, from Fredericton to Grand Falls, New Brunswick.....	21st Aug., 1826.
Fraser Cecil	Assistant Engineer, Quebec Harbour Works.....	1875-82.
French, J. Barnard.....	Welland Canal Staff, north division, 2nd enlargement.....	1876.
Frome, Lt. E. G., R.E..	Description of Rideau Canal and Chaudière bridge.....	28th Feb., 1837.
Gallwey, W. B.	Preliminary surveys, maps, profiles of projected Chats Canal, between Lake Chaudière and Lake des Chats, River Ottawa, 33 miles above the City of Ottawa..... See Report of John Page, Chief Engineer of Public Works, dated Quebec, 30th March, 1854. Work commenced by A. P. McDonald and F. Schram, contractors..... Unfinished since work was suspended..... Canal 2'83 miles long, designed with 6 locks, of 190 by 45 feet each, with 7 feet of water on the sills and a total lockage of 49'80 feet. Total expenditure, chiefly on rock excavation and preparing stone for locks, \$482,950.81, up to... See page 481, App. 30, by G. F. B., Public Works Report, 1867-82.	1852 to 1854. Aug., 1854. 16th Nov., 1856. 1st July, 1867.
Gamble, F. C.	Assistant Engineer, Public Works, British Columbia..... do in charge of Public Works, British Columbia..... Member of Canadian Society of Civil Engineers..... Resident Engineer and Agent, Public Works Department, British Columbia.....	1st May, 1881-86. 1st Jan., 1886-88. 20th Jan., 1887. 1st Jan., 1888-91.
Gamble, S.	Report on projected Caughnawaga Canal, between River St. Lawrence and Lake Champlain.....	1855-56.
Garon, L.	Assistant Engineer, Public Works, harbour surveys, Ontario	1880-81.
Gaudet, J. F.	Engineering Staff on survey, Dawson Route, from Thunder Bay, Lake Superior, to Fort Garry, Manitoba, 451 miles	1857-59.
Gauvreau, Pierre.....	Engineering and Architect staff, Province of Quebec, Public Works Department..... Subsequently employed by Provincial Government of Quebec until his decease, on the 16th May, 1884, at the age of 71.	1850-67.
Geddes, —.....	Consulting Engineer with Capt. Cole, R.E., and Fleming, Williamsburgh and Cornwall Canals.....	1834.
Gibbs, Alexander..	Assistant Superintending Engineer, Lachine Canal.....	1823.
Gisborne, F. N.	Superintendent Government Telegraphs, Nova Scotia..... Laid Prince Edward Island Cable..... Superintendent Government Telegraph and Signal Service, Canada..... Laid Gulf of St. Lawrence and Bay of Fundy Cables..... Laid British Columbia Cables..... Mining Engineer and Electrician, &c..... Fellow Royal Society, Canada..... Member of Council Canadian Society of Civil Engineers...	1848-51. 1852. 1st May, 1879-91. 1880. 1881-84. 1882. 1888-89.
Gisborne, Hartley.....	Government Telegraph Constructing Engineer, British Columbia, &c..... District Superintendent Government Telegraphs, North-West Territories..... Associate member Canadian Society of Civil Engineers... Located at Fort Qu'Appelle Telegraph Station.....	1880-82. 1st Oct., 1882-91. 9th June, 1887. 1889-91.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Gordon, Lieut., R.E.	Engineering Staff, Grenville Canal.	1844.
Gre, T. S.	Assistant Engineer, Sarnia and Brantford Roads, &c.	
Gourlay, Robert	His views respecting Cornwall and Welland proposed canals, and improvement of the River St. Lawrence .. "Statistical Account of Canada," with map, published in London, England .. Died in Edinburgh, Scotland, August, 1863.	1819. 1822.
Gouin, W. F.	Engineering Staff, Public Works, Ontario, Manitoba and North-West Territories	1884-91.
Grant, M.	Survey and Report on Navigation, St. John River, N.B. Commissioner in charge of works, St. John River, N.B.	1850. 1850-51-52.
Gregory, Charles Currie, C.E.	Assistant Engineer, Sarnia Branch Great Western Railway .. do European & North-Western—now Intercolonial Railway—Upper Salisbury Division .. Engineer, City of Fredericton, N.B. European & North American Railway. In charge Eastern Division .. Preliminary location, Carleton Branch Railway .. Chief Eng., for contractors, Prince Edward Island Railway .. Engineer in charge of alternative surveys North Shore Railway, Quebec .. Chief Engineer Eastern Extension, Nova Scotia .. Arbitrator in case—Canadian Pacific Ry. vs. The Queen ..	1857-59. 1859 to 1861. 1862 to 1867. 1867 to 1869. 1870. 1871 to 1875. 1876. 1876 to 1878. 1889-90.
Gray, Henry A.	Assistant Engineer, Intercolonial Railway .. do Public Works Department .. Examination and report, Neebish Rapids channel, Lake Huron .. Engineer in charge of harbours, Western Ontario .. Examination and report, Rideau River flood and proposed outlet by canal .. Assistant to Chief Engineer, Public Works, at Ottawa .. Examination and report on saw-dust obstructions, River Ottawa .. Resident Superintending Engineer, Public Works, Maritime Provinces .. Engineer in charge of harbours, Western Ontario .. Member Canadian Society of Civil Engineers ..	1867-74. 1878-80. 1880. 1881 to 1886. 1886. 1886 to 1888. 11th May, 1888. Aug., 1888-89. 1st July, 1889-91. 20th Jan., 1887.
Greene, D. M.—U.S.	Report on saw-dust in navigable streams	10th March, 1871.
Greenwood, H.	Engineering Staff, New Canal Works, River Trent	1883 to 1887.
Groncin, A. L.	Engineering Staff, Public Works, harbour surveys, north shore of River St. Lawrence	1883.
Guay, J. F.	Mechanical Engineer, Altoona Shops, Pennsylvania Railway, U.S. Assistant Engineer, North Shore Railway, Quebec to Montreal .. Engineer in charge of location and construction of Quebec and Lake St. John Railway .. Survey of projected railway from St. Alphonse, Baie des Ha! Ha!, River Saguenay, to Lake St. John .. Survey and plans for water works at Fraserville, Rivière du Loup .. Survey and plans for water works at Chicoutimi, River Saguenay .. Engineer in charge of construction, Montmorency and Charlevoix Railway, Quebec to Ste. Anne de Beaupré .. Engineer in charge of surveys for projected works, Lake St. John, Upper Ottawa, &c. Associate Member Canadian Society of Civil Engineers ..	1873 to 1878. 1878-79. 1880-87. 1882. 1885. 1887. 1887 to July, 1889. 1889-91. 25th June, 1887.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Guerin, Thomas.....	Engineering Staff, Head-quarters, Public Works..... Previously Professor Civil Engineering at McGill University, Montreal. Assistant Engineer of G. F. Baillairgé on Baie Verte Canal survey..... Hydraulic surveys, Montreal, Ottawa, Chaudière Falls and Manitoba, &c..... Member Canadian Society of Civil Engineers..... Died suddenly in his office at Ottawa, 7th May, 1887.	1st Sept., 1864-69. 1870 to 1873. 1883-87. 20th Jan., 1887.
Guy, A.	Sub.-Assistant Engineer, Beauharnois Canal	1843.
Gzowski, Col. C. S.	Graduate of Engineering Military School of Krzemieniec, Russia. Engineer on the Pennsylvanian Canals, Lake Erie division, and on the construction of a portion of the New York and Erie Railway, terminating at Dunkirk, Lake Erie, U.S..... Superintending Engineer, roads, harbours, &c., Western Ontario..... Report on Burlington Bay Canal..... Chief Engineer, St. Lawrence and Atlantic Railway..... Consulting Engineer do do do do do harbour and works, at Montreal..... do do ship channel improvement between Montreal and Quebec..... Canal Commission, projected enlargement, &c..... International Bridge across the Niagara..... Report on proposed enlargement Welland Canal..... do scheme Baie Verte Canal..... Third President Canadian Society of Civil Engineers..... Member of Royal Commission to examine and report on plans Montreal harbour improvements.....	1837 to 1841. 1841 to 1847. 16th Feb., 1848. 1848 to 1852. do do do 1850 to 1853. 1850 to 1853. 16th Nov., '70 to '71. 1871 to 1872. 14th Feb., 1873. 18th do 1873. 1889-90. 10th April, 1890.
Hadden, Lieut., R.E....	Engineering Staff, Grenville Canal.....	1834.
Hale, W. D.....	Specification for extension of piers at Port Stanley, Lake Erie.....	2nd Nov., 1849.
Hall, Major, Royal Staff Corps	Engineering Staff, Carillon Canal.....	1832.
Hall, Francis Benj....	Assistant Engineer, with Mr. Telford, construction of Tweed Bridge, Rockliff, G.B. Assistant Engineer, calculations, designs and execution Menai Bridge, Anglesea, Great Britain. Designed suspension bridge at Newcombe, across the Mersey, Great Britain. Welland Canal route, with Messrs. Clowes and Roberts... Shubenacadie (Chikabenaquady) Canal, N.S., commenced... See App. 30, p. 902, by G. F. B., Public Works Report, 1867-82, and Public Works, Canada, and their Engineers,—Canals—1779-1891. Superintendent construction, Burlington Bay Canal..... Report on Baie Verte Canal project..... Report on proposed St. Peter's Canal, Cape Breton, N.S.. Proposed suspension bridge across Niagara River..... Roads, Ontario. NOTE—Welland Canal commenced 30th November, 1824, Opened 30th November, 1829, for vessels drawing 7½ feet of water, and of 21½ feet beam. Wooden locks, 110 by 22 feet.	1824. 25th July, 1826. 1825 to 1832. 1825. 1826. March, 1836. July, 1845.
Hamel, Amédée	Engineering Staff, Culbute Canal..... Assistant Engineer, Canadian Pacific Railway survey..... do River St. Louis improvement..... Head-quarters, Railways and Canals.....	1874. 1879. 1886. 1890-91.

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1879-1892

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Hamel, Félix M.	Engineering Staff, Public Works, harbours, &c.	1st March, 1867, to 1st Sept., 1868.
	do Intercolonial Railway, until.	1st Sept., 1870.
	do Public Works, at Head-quarters, until.	10th June, 1871.
	do Canadian Pacific Railway do ..	January, 1874.
	do Culbute Canal, River Ottawa do ..	August, 1874.
	Eng. in charge. Lock, &c., Rivière du Lièvre and Iron Bridge, Chaudière Falls.	1887-91.
	Member Canadian Society of Civil Engineers.	20th Jan., 1887.
Hanlon, —	This Engineer and W. R. Hopkins, "Persons possessing much professional talent," were consulted by Chambly Canal Commissioners respecting the estimate of Peter Fleming, £24,167 6s., which they increased to £30,300, for the construction of this canal, with locks of 100 by 20 feet, with 5 feet water on sills.	1830-31.
	Canal commenced.	Oct., 1831.
	Canal opened to navigation with locks 118 to 125 × 23½ feet with 7 feet water on the sills.	17th Nov., 1843.
Harrington, Thos. W.	Engineering Staff, St. Lawrence and Ottawa Canals.	19th July, 1870.
	Assistant Engineer, Lachine, Chambly, Culbute Canals.	1st October, 1870.
	Assistant Superintending Engineer, Canals, Province of Quebec.	1st May, 1875-87.
	Member Canadian Society of Civil Engineers.	20th Jan., 1887.
	Died 26th October, 1887.	
Harris, Major, Chs., R.E.	Rideau Canal, Report and Estimate jointly made with Col. J. C. Smith and Sir George Hoste.	1825.
	Locks to be 108 × 20 × 5 feet water on sills.	
	(Afterwards built 133 × 33 × 5 on sills.)	
	Work commenced in 1826, and completed 29th May, 1832, under Lieut.-Col. By, R.E.	
Harris, John	Master Royal Navy.	
	Survey and Estimate, Burlington Bay Canal.	1825 to Oct., 1827.
	Superintending Engineer, Burlington Bay Canal.	1827.
Harvey, Charles, R.E.	The last of the Superintending Engineers of the Rideau Canal, under the Imperial Government, until the canal was transferred to the Department of Public Works of Canada by Order in Council.	3rd March, 1857.
	See "Lieut.-Col. By" for his predecessors.	
Hawkins, William	Survey with David Taylor and David Thompson, of canal route Lake Huron to Ottawa River.	1837.
	See Baddeley, Cartwright, Clarke, Walter Shanly, James Stewart, David Taylor, David Thompson, and App. 30, p. 837 to 847, by G. F. B., in General Report Public Works, 1867-82.	
Haycock, Sam. H.	Engineering Staff, Galops Canal enlargement.	August, 1879.
Hayes, Capt., Royal Staff Corps	Engineering Staff, Grenville Canal.	1834.
Hayne, Capt. R.	Royal Staff Corps.	
	Superintending Engineer, Carillon Canal.	1832.
	Superintendent, construction of Ottawa River Canals.	1833-34.
Hazlewood, Samuel.	District Engineer on Intercolonial and Canadian Pacific Railways.	
	In charge of Fort Frances Canal works, at foot of Rainy Lake.	1875.
	See Baillairgé, Mortimer, Sutherland, H. Thompson.	
Heckman, J. W.	Engineering Staff, Public Works, river improvements.	1886.
	Member Canadian Society of Civil Engineers.	24th Feb., 1887.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Hegan, J. B.	Assistant Engineer, Intercolonial Railway. Assistant Engineer, Public Works, Maritime Provinces. Acting Engineer in charge of Public Works do Member Canadian Society of Civil Engineers. Resident Engineer at St. John, Public Works, N.B.	1869 to 1873. 1873 to 1880. 1882 to Sept., 1883. Sept., '83 to July, '88. 17th May, 1888. July, 1889-91.
Henry George W.	Lachine Canal enlargement, Lachine Division. Left service July, 1885, for C.P.R.	July, 1880-85.
Henshaw, George H. ...	Resident Engineer, new lock and channel Sts. Anne de Bellevue, River Ottawa, north side. Paper on floods of River St. Lawrence. Paper on frazil ice, its nature and prevention, to the Cana- dian Society of Civil Engineers. Member Canadian Society of Civil Engineers.	October, 1873-83. 1884. 1887. 22nd March, 1888.
Heyland, A. R.	Engineering Staff, Public Works, British Columbia.	1st Oct., 1885, to 19th Nov., 1888.
Hill, A. E. B.	Engineering Staff, Public Works, British Columbia. Bachelor of Applied Sciences, member Canadian Society of Civil Engineers.	1st Oct., 1887-89. 25th June, 1887.
Hopkins, W. R.	Resident Engineer, Chambly Canal. Chambly Canal commenced. Locks 118 to 125 $\times$ 234, with 7 feet of water on sills. Chambly Canal open to navigation. St. Ours Lock and Dam proposed.	1831-34. Oct., 1831. 17th Nov., 1843. 1835.
Hoste, Lieut.-Col. Sir Geo., R.E.	Rideau Canal, report and estimates. Locks to be 108 $\times$ 20 and 5 feet depth on sills. (Altered to 133 $\times$ 33 $\times$ 5). Work commenced 1826, and completed 29th May, 1832, under Lieut. Col. By, R.E.	1825.
Holloway, Col. Wm. Cuth- bert Elphington, C. B. Commander R.E.	Survey and report on navigation of Richelieu, St. Law- rence and Ottawa Rivers. Report on Welland Canal. Testimony re Rideau Canal lands.	1845. June, 1845. 4th June, 1845. 15th March, 1845.
Hounslow, T.; F. W., R.E.D.	Description of method of raising buildings by screws in Canada and the United States.	18th Sept., 1841.
Howorth, Lieut., R.E. ...	Engineering Staff, Grenville Canal.	1836.
Hughes, J.	Report on proposed arbitration, St. Lawrence Canals.	31st Oct., 1834.
Hunter, William.	Resident Engineer, Lake St. Peter.	15th Feb., 1843, to 11th Dec., 1844.
Inglis, William.	Consulting Engineer, Richelieu Nav. Co., &c. Born at Ottawa, Ont. Died at Bolton, England.	1836. 22nd April, 1890.
Irving, J. L.	Assistant Engineer to H. A. Gray, Western Ontario.	26th May, 1884-88.
James, C.	On southern division, Welland Canal, 2nd enlargement.	1875.
Jackson, John.	Report, &c., for Grand River (Ottawa) Navigation Co.	1st Nov., 1843.
Jervis, J. B.	Report on projected Caughnawaga Canal from River St. Lawrence to Lake Champlain, and from Caughnawaga to St. John, recommending its construction, as pro- posed by J. B. Mills, 19th February, 1848.	13th Feb., 1855.
Jebo, Capt., R.E.	Routes for Rideau Canal proposed between Ottawa and Kingston.	1815 to 1817.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Jonah, Frank G.	Engineer in charge of soundings and borings for subway, from Prince Edward Island to mainland at Cape Tormentine.	1885.
Joslin, H. K.	Lachine Canal, 2nd enlargement, Res. Eng., Montreal Div. Left service 1st May, 1882. Died in Nov., 1887.	July, 1872-82.
Keating, E. H.	City Engineer, and Engineer and Superintendent water works, Halifax, N.S. Engineering Staff Pictou Ry. Chief Draughtsman, Windsor and Annapolis Railway Asst. Engineer, Intercolonial railway. Div. Engineer, Can. Pac. Ry. explorations. Member of the Institution of Civil Engineers, London. Engineer for various water and sewerage works. Resident Chief Engineer, Halifax Graving Dock. Constructed by Halifax Dry Dock Company, incorporated in England. Agreement with Public Works Depart., Canada, signed. Length, 585 feet; width, at coping level, 102 feet; width on bottom, 72 feet; width of entrance, 89 feet; depth on sill, ordinary spring tides, 30 feet—(spring tides rise 6 feet; neap tides, 3 feet). Work commenced. Opened for use by Vice-Admiral Watson, Commander-in-Chief North American and West India Station, H.M.S. "Canada" docked. Subsidy by Dominion Government, Imperial Government, and City of Halifax, each \$10,000 per annum, for 20 years. Contractors—Messrs. Pearson, Son & Brookfield. Local Contractor, Samuel M. Brookfield. Cost, about \$1,000,000. Approved by H. F. Perley, Chief Engineer, Public Works Department.	— to 1891. 1864-67. 1867. 1868-1872. 1872. 1878. 1886-1891. 13th Feb., 1886. 1st May, 1886. 20th Sept., 1889.
Keefer, George.	Engineer, Welland Canal Co. Res. Eng., first construction of lower div. of Cornwall Canal Resident Engineer in charge of Chambly Canal, completion and improvements. Member of Council, Canadian Society of Civil Engineers.	1833. 1834-43. 1844-47. 1849.
Keefer, Samuel H.	Secretary and Asst. Engineer, Public Works, Upper Canada Chief Engineer, Public Works, Ontario and Quebec. Superintending Engineer, Welland Canal. Survey Saut-Ste.-Marie projected canal, Canada. Chief Superintending Engineer, Grand Trunk Railway. Inspector of railways. Assistant Commissioner of Public Works. Canal Commission. Report on proposed Welland Canal enlargement. do Baie Verte Canal route, &c. Second Past-President Canadian Society of Civil Engineers Born at Thorold, 22nd Jan., 1811. Died at Brockville, 7th Jan., 1890.	28th March, 1833-41. 17th Aug., 1841-52. 24th June, 1846. 1852. 1853 to 1859. 1857-64. 6th May, 1859-64. 16th Nov., 1870-71. 14th Feb., 1873. 18th Feb., 1873. 1888.
Keefer, Thos. C.	Assistant Engineer, Welland Canal. River Ottawa slides and booms. River St. Lawrence improvements. Survey and design for Victoria Bridge. Consulting Engineer, Ship Channel and Montreal Harbour Hamilton Water Works. Georgian Bay Canal project, report. Chief, Executive Committee of Canada at Paris Exhibition Montreal Water Works, &c. First Past-President Canadian Society of Civil Engineers. President American Society of Civil Engineers. Montreal Flood Commission.	1842-45. 1846 to 1849. 1849 to 1851. 1851-52. 1853 to 1855. 1857-59. 1863. 1878. 1878 to 1887. 24th June, 1887. 1888. 1886-98

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Keeley, D. H.	Assistant Superintendent Government Telegraph Lines of Canada..... Associate Member of Canadian Society of Civil Engineers..... Patent for multiplex system of telegraphing.....	1st March, 1882-91. 25th June, 1887. 1890.
Keller, Capt. L.	Engineering Staff, Public Works, hydrographic survey, Pointe-aux-Trembles to Cap Charles, River St. Lawrence, &c.	1892-84.
Kelly, Athol D.	Engineering Staff, Welland Canal enlargement, North Division.....	
Kennedy, John.	Chief Engineer, harbour improvements, Montreal, and dredging of River St. Lawrence, Montreal to Quebec..... Vice-President Canadian Society of Civil Engineers..... Montreal Flood Commission..... Vice-President, Canadian Society of Civil Engineers.....	20th April, 1875-91. 24th June, 1887. 1886-88. 1890.
Kerr, Robert W.	Report on macadamized road, Dundee to Guelph, Ont.	23rd March, 1839.
Ketchum, H. G. C.	Superintending Engineer, construction of Ship Railway Bay of Fundy, to Baie Verte, Gulf of St. Lawrence..... Member Council Can. Soc. of Civil Engineers.....	1887-91. 16th Oct., 1887.
Kierkowski, A.	Engineering Staff, Beauharnois Canal..... Died towards 1871.	1842 to 1845.
Killaly, John S.	Educated in Europe for the civil and mining branches of the profession; chose the North American States as a field of operation. He was subsequently engaged in Canada, upon the construction of the Cornwall Canal, which was commenced in 1834 and completed in 1843. Enlargement with locks, 270 x 45 x 14 feet water on lock sills; commenced 1876, unfinished 1890. Superintending Engineer of the Rideau Canal..... He was the first Superintending Engineer appointed on this work by the Government of Canada; all previous engineers thereon having been appointed by the Imperial Government. (See Lieut.-Col. By, R.E.)..... Returned to the United States where he has been engaged on various works, chiefly, of late years, upon the canals of the State of New York..... Resides at Booneville, Oneida County, N.Y. Brother of Hon. H. H. Killaly, chairman of the Board of Works, Canada, 29th Dec., 1841, to 8th June, 1846.	Jan., '57, to April, '58. 1832 to 1857. 1858-89. Dec., 1889.
Killaly, Hon. H. H.	Entered Trinity College, Dublin, in 1815; graduated there in 1819, when he commenced the practice of civil engineering, superintending the construction of the Custom House at that city. Was afterwards associated with his father until the death of the latter in 1832, and was engaged in the construction of roads, bridges, canals, and the improvement of the River Shannon, &c., most of which works being situated in the western part of Ireland. His father was, for many years, Government Engineer for the Board of Works of Ireland, under Gen. Sir Geo. Burgoyne, R.E. Resigned his position in Ireland and came to Canada where he settled near New London, Ont. Survey with N. H. Baird for first enlargement of Welland Canal..... Chairman Board of Works, Ontario and Quebec..... Specification of works at Windsor Harbour, Lake Ontario. Special reports on Saut-Ste-Marie, Goderich Harbour, piers below Quebec, Lake St. Peter, Points Pelée lighthouse, &c. Assistant Commissioner of Public Works..... Died 28th March, 1874, aged 72.	1834. 1837. 29th Dec., 1841, 8th June, 1846. 1st May, 1843. 1846 to 1862. 15 Feb., 1861.

ENGINEERS Employed on Public Works, Canada—Continued.

of nt, &c.	Engineers.	Works.	Dates of Employment, &c.
1882-91. 1887.	Killaly, H. H., jun.	Resident Engineer, upper division of Lachine Canal, 2nd enlargement Cornwall Canal enlargement, upper half Rapide Plat Canal, &c., enlargement, &c. Member Canadian Society of Civil Engineers.	Feb., 1876-85. 1st July, 1885-91. Dec., 1884-88. 20th Jan., 1887.
1875-91. 1887.	King, Chetwood Henry Waters	Engineering Staff, southern division, Welland Canal enlargement A physician, practising at Cohoes, N.Y., U.S.A.	Feb., '83 to Nov., '88. 1890.
1875-91. 1887.	King, William	Assistant Mechanical Engineer, Ottawa, &c. Public buildings and dredges.	26th Dec., 1878-91.
1875-91. 1887.	King, Capt. William	Royal Staff Corps. Grenville Canal Superintending Engineer, Cascades, Split Rock, Côteau du Lac—Ordnance Canals See By, Mann, &c.	1825. 1826.
1839.	Kingsford, William, C.E., L.L.D.	Survey, map and description Lachine Canal Engineer in charge of preliminary surveys, G. T. Railway, Cornwall to Dickinson's Landing, Brockville, via Lynn, Farmerville, Lyndard, and flats of Rideau Canal, to Kingston; permanently located line from Montreal to Cornwall Author and publisher of a work entitled "The Canadian Canals, their History and Cost," with arguments recommending their enlargement. Special examination, with confidential report, on Champlain Canal, in the State of New York, in connection with projected Caughnawaga and Champlain Canal, establishing, that propellers of large size, leaving the St. Lawrence and reaching Lake Champlain, could not find any exit. Examination, report, designs and estimate of the cost of making River Gananoque navigable. Prepared map of Rideau Canal, from Ottawa to Kingston, showing area of water sheds, &c. Engineer in charge of harbour and river improvements, breakwaters and piers, in the Provinces of Ontario and Quebec, from Lake Superior to the Gulf of St. Lawrence; commenced removal of Rock Shoal, Kingston Harbour; designated and partly completed new channel through Neebish Rapids; examination and report, with estimate on causes of inundation, Chenal du Moine, &c.; report on harbours of refuge, Lower St. Lawrence; designed improvements and constructed breakwater, Collingwood Harbour; designed improvements, Penetanguishene waters, and entrance to River Kamanistiquia, etc. Survey and Report on the condition of Toronto Harbour, also on waters of Sarnia and Oakville. Report, estimates and drawings of proposed tunnel under Detroit River, from Amherstburgh to United States shore. Directed several important surveys, making reports, maps and estimates. Prepared Annual Report, Department of Public Works, several years prior to ... Connection with Department of Public Works ceased, 1st March, 1880, when H. F. Perley was recalled to headquarters, and was assigned to the duty of Engineer of this Department. A gratuity equal to 6 months' salary (\$1,650) voted by Parliament in 1881, as compensation for loss of employment, and paid to Mr. Kingsford. Member Canadian Society of Civil Engineers.	1847. 1852-54. 1864-65. 1871. 1872. 1872. 1873-80. 1873-80. 1873-80. 1873-80. 1880.
1841, 1846. 1843.	Kinipple & Morris	Members' Institution of Civil Engineers, Great Britain.	20th Jan., 1887.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Kinipple & Morris	Engineers—Docks at entrance of River St. Charles, Quebec Works authorized by Act 36 Vic., chap. 32, sec. 17 Princess Louise embankment and quay wall on north side of 1st projected series of docks, 3,960 feet long and 330 wide. Outer or tidal basin, 20 acres in area, and 29 feet deep at low water of ordinary spring tides. Inner basin, 36 acres in area, and 25 feet deep at high water lowest neap tides. Spring tides rise 18 and neaps 13 feet. Work commenced under Harbour Commissioners, Quebec Quay wall and outer basin, nearly completed Cross-wall between inner and outer basins, commenced in 1883, under H. F. Perley, Chief Engineer, Public Works, and completed with gates, etc., and south wall, along St. Andrew's Street. For Contractor's, etc., see page 88. Expenditure on construction, \$3,874,400, to	1875-82. 1873. 28th May, 1877. Dec., 1882. 1889. 30th June, 1890.
	Engineers—Lévis Graving Dock, opposite Quebec Length, 495 feet, with a circular head of 31 feet radius, and a square offset of 19 feet on each side. Width at coping level 100, and at bottom 73 feet. Entrance width, 62 feet. Depth of water on sill at high water of ordinary spring tides, 25½ feet, and at low water, 7½ feet. Depth of water on sill at high water of ordinary neap tides, 23 feet, and at low water, 10 feet. Work authorized by Act 38 Vic., chap. 56 Site chosen by an Order in Council Work commenced under Harbour Commissioners, Quebec Work continued and completed under H. F. Perley, Chief Engineer, Public Works For Contractor's, etc., see page 87. Expenditure on construction, \$912,194.90 up to	1875-82. 1875. May, 1877. 1878. Sept., 1883-89. 30th June, 1890.
	Engineers—Esquimalt Graving Dock, about 3 miles below Victoria, Vancouver Island, B.C. Plans and specifications prepared and on exhibition at Victoria, &c., by Provincial Government of British Columbia Plans of the caisson furnished by them Act of Provincial Government, B.C., authorizing construction of graving dock, 43 Vic., chap. 8. Agreement between Dominion Government and Government of British Columbia, under sanction of Imperial Government, respecting construction of graving dock, signed subsequently to Contract awarded to McNamee & Nish by Government of British Columbia This contract was cancelled by Government of British Columbia Work continued by day's labour Hon. J. W. Trutch appointed Engineer in charge and W. Bennett, as Resident Engineer Work under Dominion Government authorized by Act 47 Vic., chap. 6 The graving dock and its grounds to be transferred to Dominion Government in virtue of this Act Work continued and completed under H. F. Perley, Chief Engineer, Public Works Contract for completion of graving dock signed by Larkin, Murphy & Connolly, \$581,841.43	18th Nov., 1879. 1st Dec., 1882. 1880. 12th July, 1880. 1880. 1882. 1882-83. 24th Nov., 1883. 1884. 1884-87. 8th Nov., 1884

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Kinipple & Morris.....	Contract for caisson, "Dominion Bridge Co.," Montreal, \$53,729.54, to..... Dock completed and opened by entrance of H.M.S. "Cormorant" Expenditure—Provincial Government, British Co- lumbia.....\$384,512 66 do Imperial Government 243,333 33 do Dominion do 529,214 42 Total.....\$1,157,060 41 up to Dimensions of graving dock as completed up to... Length at centre.....430 feet Width at bottom.....41 " do coping level.....90 " do entrance.....65 " Depth of water on sill, 26½ feet at high water springs. Springs rise 7 to 10 feet, per Capt. Richards. R.N. Neaps rise 5 to 8 "	10th July, 1885. July, 1887. 17th Dec., 1889. 1890.
Kirkwood, James P....	Member of Board of Engineers, appointed to report on Montreal Harbour and Navigation, &c., of the River St. Lawrence..... Report on Montreal Harbour and Navigation, &c., of the River St. Lawrence.....	9th Nov., 1857. 24th March, 1858.
Kuper, Augustus.....	Prepared plans and specifications for improvements Riche- lieu River.....	1831.
Lafleur, Eugène D.....	Engineering Staff, Public Works at Ottawa..... Assistant Engineer, hydrographic survey, River St. Law- rence..... Harbour works, Ontario, Quebec and New Brunswick..... Member Canadian Society of Civil Engineers.....	27th Sept., 1881. July, 1883-84. 1889-91. 20th Jan., 1887.
Langevin, H. Laforce....	Princess Louise Basins, Quebec, and Point Lévis Graving Dock..... Assistant Engineer, harbour works, Quebec and Lévis..... Associate member Canadian Society of Civil Engineers.....	1884-88. 1889-91. 27th June, 1888.
Languedoc, G. de G....	Grenville Canal enlargement..... Associate member Canadian Society of Civil Engineers.....	May, 1879 to 1887. 24th Feb., 1887.
Lantier, E.....	Engineering Staff, survey proposed Cedars Canal..... Member Canadian Society Civil Engineers.....	1872-73. 14th Oct., 1889.
Lapham.....	Assistant Engineer, Welland Canal Co.....	Aug., 1827.
Larocque, A. B.....	Junior Sub-Assistant Engineer, Beauharnois Canal.....	1843.
Larue, Adolphe.....	Provincial Land Surveyor, P.Q., Survey of Lake St. Louis. Assistant of H. G. Thompson..... Report on claims for damages, Beauharnois Canal.....	1836. 1836. 9th Feb., 1856.
Laurie, James.....	Report and estimates, St. Peter's Canal, Cape Breton, N.S.	July, 1858.
Lawson, W.....	Assistant Engineer, Sarnia and Brantford Roads.....	1843.
Lefebvre, Jean.....	Engineering Staff, Metapedia Road, S. Division, assistant to G. F. Baillairgé.....	1857 to 1867.
Legge, Charles.....	Engineering Staff at Head-quarters, Montreal, and on weirs, &c., of canals below Prescott..... Afterwards on railway service, &c. Died.....	1846 to 1854.
Lepage, J. B.....	Engineering Staff, Public Works, harbour surveys and river improvements, occasionally Previously in charge of Colonization roads since 1857.	1880-90.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Lepage, Samuel.....	Engineering Staff, Public Works, harbour surveys below Quebec.....	1883.
Leprohon, C. de B.....	Engineering Staff, Lachine Canal enlargement, Lachine Division..... Left service July, 1885, for Corporation. Montreal.	Oct., 1875-85.
Leslie, William Lewis...	Engineering Staff, S. Division, Welland Canal enlargement do do Head-quarters, Ottawa.....	Oct., 1872, Nov. 30, '88 Feb., 1889-91.
Lewis, Col., R. E.....	Commissioner, Rideau Canal.....	Spring, 1828.
Light, Alex. L.....	Assistant Engineer on western roads, Ontario, under Col. C. S. Gzowski.....	1842 to 1848.
Lightfoot, F. C.....	Engineering Staff, surveys of harbours and rivers..... Employed in Chief Engineer's Office.....	July, 1874-77. 1877-91.
Lindsay, John.....	Engineer—Survey head-waters, River Ottawa..... Died 28th Sept., 1880, at Mat.....	15th June, 1880.
Long, Major Andrews...	Royal Staff Corps of Engineers, Imperial Government. Construction and repairs, Cascades, Split Rock and Côteau du Lac—military canals..... See By, Mann, &c.	1817.
Lyons, James.....	Superintending Engineer, River Trent Works—improvements; light-houses, River St. Lawrence, &c.....	1843-55.
Macdonald, J. Frobisher	Cornwall Canal, &c..... Superintending Engineers, canals, Lachine, Chambly, St. Ours, &c..... Piers below Quebec..... River St. Maurice, slides and booms..... Témiscouata Road, commenced 1856, opened 1861, completed 1866, under Joseph Rosa his assistant..... Died at Toronto in the autumn of 1857.	1842-43. 1848-52. 1849-50. 1851-52. 1853.
Macdougall, Alan.....	Engineering Staff, Public Works, harbours, &c., Ontario..... Member Canadian Society of Civil Engineers.....	Sept., 1873. 20th Jan., 1887.
Maillefert.....	Submarine Engineer, examined River St. Lawrence Rapids from Lake Ontario to foot of Lake St. Louis at Lachine	1854.
Maine, Charles.....	Engineering Staff, Harbour of Three Rivers, River St. Maurice slides, dams and booms, River Yamaska, Nicolet, &c..... Previously on Public Works in France, &c.	1886-91.
Maingy, Robert.....	Mining and Civil Engineer, Superintending Engineer, Hamilton and Brantford Road.....	1837.
Mann, Col. Gother.....	Royal Engineer Corps, Imperial Government. Letter to Messrs. Forsyth, Richardson & Co., opponents to McTavish, Frobisher & Co., respecting Saut-Ste.-Marie Canal, prior to..... Saut-Ste.-Marie Canal, on Canadian territory, 3,000 feet long, with a lock, raising the water 9 feet, between Lakes Huron and Superior; survey made by order of the firm of Messrs. McTavish, Frobisher & Co., on behalf of the North-West Company..... Canal constructed by them, prior to..... See Capt. Bruyères, Royal Engineer. Report on the state of the first canals built between 1779 and 1783, at the Cascades and Mill Rapid, Split Rock, "Trou du Moulin" at Longueuil's Mill and at Côteau du Lac, recommending their enlargement.....	18th April, 1803. 1797. April, 1802. 24th Dec., 1800.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Mann, Col. Gother.	He recommended to enlarge the original locks, which were 7 feet wide at Côteau du Lac, and 6 feet at Split Rock, to 9½ feet, between the gates, to increase the depth of water 1½ feet in the canals and on the lock sills, then about 2 feet, to 3½ feet, to widen the lock chambers 4 feet and the canals 2 feet. At Mill Rapid and Cascades, at Cascades Point, he recommended the construction of one instead of two canals, and to sink the bottom at each entrance thereof to a depth of 3 feet below the lowest water for the passage of the largest boats. Canal to be 10 feet wide, with 3 locks 20 feet wide in the chamber and 120 feet long, so as to allow the passage of 6 boats at a time. Frederick Haldimand, Lieut. Governor of Canada, 1778-1785, wrote to Lord Geo. Germain that a very complete canal was completed and in operation at Côteau du Lac. See letter in Canadian Archives. See Ottawa, D. Brymner, Archivist, dated The locks at "Split Rock" and "Côteau du Lac" were partly rebuilt and a new canal, about half a mile in length, with 3 locks and a total rise of 13½ feet was built at the Cascades. All the locks were probably then enlarged to 9½ feet between the gates, as suggested by him. The locks of the Cascades, Split Rock and Côteau du Lac Canals were enlarged by the Royal Staff Corps, to 12 feet between the gates, and the depth of water on the lock sills was increased to 3½ feet, for the passage of Durham boats, with from 80 to 100 barrels of flour, instead of the former boats with 30 to 40 barrels. From 1815 to 1834, both years inclusive, the gross revenue on these canals was £31,580 13 4; the cost of repairs, &c., £10,102 15 2½, and the net revenue, £21,470 17 1½. Report on navigation of St. Lawrence at Longueuil Mill "Trou du Moulin" and between that point and Cedars. Consulting Engineer of Grenville Canal which was commenced in summer of G. F. Baillairgé, the present Deputy Minister of Public Works, made surveys and plans of the canals at the Cascades, Split Rock and Côteau du Lac, the locks and gates of which were then entire; the width between the gates of the locks was 12 feet, and the depth of water on the sills from 3 to 4 feet. He also measured one of the canals built between 1770 and 1783, on Cascades Point, which had been used as a flume for a mill then in ruins; the width between the lock gates was 6 feet. From 1857 to 1890, the masonry of the locks, &c., at the Cascades and Split Rock, has been partly demolished by persons in want of cut stone for building purposes. At Côteau du Lac, the old canal has been used most of the time up to 1881 as a flume for a mill erected thereon by George Beaudet, the lessee. For further details, see General Report of Public Works, 1867; also, Report on Canadian Archives, 1886, by Douglas Brymner, Archivist. These canals were not previously constructed by the French, as was believed in 1867.	25th Oct., 1780. 1804. 1817. 1815 to 1834. 25th Sept., 1818 1819. 1857. 1st June, 1871, to 1st Feb., 1881.

Engineers Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Mann, Capt. J. W.	Royal Staff Corps of Engineers. Report on navigation of St. Lawrence Engineer in charge at construction of Grenville Canal.....	25th Sept., 1818. 1819.
Marceau, Ernest.....	Lachine Canal enlargement..... Grenville Canal and Ste. Anne Lock enlargement..... Asst. Superintending Engineer, Ottawa River canals, &c..... Member Canadian Society of Civil Engineers.....	July, 1876-77. Aug., 1877-80. May, 1881-91. 12th May, 1887.
McAlpine, Hon. W. J. ... United States.....	Appointed with Messrs. Childe and Kirkwood to report on Montreal Harbour, and navigation and trade of the St. Lawrence..... Report on do do Report on saw-dust in Ottawa River, &c. Report on proposed Welland Canal enlargement.....	9th Nov., 1857. 24th March, 1858. 1st March, 1871. 14th Feb., 1873.
McCarthy, Charles.....	Engineering Staff, Public Works, at Head-quarters, &c. In charge of plans specifications, etc. Superannuated 1st July, 1884.	1857-84.
McCarthy, C. H.	Engineering Staff, Public Works, roads, canals, &c.....	Sept., 1872.
McCarthy, James M.	Engineering Staff, Public Works, under Thos. Guerin.... Bachelor of Applied Sciences. Student Canadian Society of Civil Engineers.....	1883-84. 20th Jan., 1887.
McCarthy, William.....	Engineering Staff, Public Works, river works, &c..... Previously employed on railways. Member Canadian Society of Civil Engineers.....	1884-86. 22nd March, 1888.
McCordock, W. J.	Engineering Staff, Superintendent of Dredging, Maritime Provinces	1870-91.
McDonall, Robert	Assistant Superintending Engineer. Lachine Canal.....	1821.
McGreevy, Charles.....	Engineering Staff, Public Works, harbour surveys..... Assistant Engineer, Quebec Harbour Works..... do Princess Louise Basin, Quebec, to.... Associate member Canadian Society of Civil Engineers...	1881-83. 1883-89. 1st Aug., 1890. 9th Feb., 1888.
McGreevy, Robert.....	Engineering Staff, Public Works, harbour surveys.....	1881-86.
McKay, William.....	Survey report and plans Baie Verte Canal for Government of Nova Scotia.....	1838.
McKay, E. B.	Assistant Engineer on Cowichan River, British Columbia.	1st Sept., 1887, to 2nd Feb., 1888.
McLaughlin, Geo. E.	Assistant Engineer, Public Works, Maritime Provinces.... Engineer in charge Public Works, Maritime Provinces.... Died 6th October, 1883.	1872-81. 1881 to 1883.
McLauchlan, Mr.	Superintending Engineer, navigation improvements, St. John River, N.B.	1853-56.
McNab, Alexander.....	Engineer in charge construction of St. Peter's Canal for Government of Nova Scotia..... Report on Grand River, West Arichat, and Barrasois Har- bours, Co. Richmond, N.S. Transferred to Department Public Works..... Appointed Engineer of Intercolonial Railway, in operation. Canal commenced by N. S. Gov., 1864. Canal completed by Dom. Gov., 5th August, 1869. Enlarged 1875-81.	July, 1865-67. 1st March, 1866. July, 1867. Nov., 1872.
McNab, Dugald B.	Was engaged on surveys of Crown Lands, and laying out roads, etc., in Cape Breton from about..... Now residing at Winalow, Maine, U.S.A. Age 97.	1828 to 1880.
McNaughton, Chas. E.	Engineering Staff, Welland Canal enlargement, Northern Division..... Assistant Engineer to H. A. Gray, Western Ontario.....	1875. 1883.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
McTaggart, John, R. E.	Clerk of Works, Rideau Canal. Examination and report on Rideau Canal. Survey and report on Burlington Bay Canal.	1826. 1827-28. 30th Mar., 1827.
Melhuish, Capt., R. E.	Account of demolition of Glacière Bastion, Quebec. Consulting Engineer, Chambly Canal.	1828. 1831.
Merrill, Horace	Superintending Engineer, Ottawa River slides and booms. St. Maurice slides at Shawenegan and Grand Mère, first designed by him and laid out by G. F. Baillargé. Carillon dam across the River Ottawa. Died 22nd May, 1883.	20th Jan., 1849, to 22nd July, 1875. 1852. June, 1879, to 1883.
Merritt, Thomas	Engineering Staff, Welland Canal enlargement, Northern Division.	1875.
Michaud, C. E.	Assistant Engineer of G. F. Baillargé on survey of Gaspé and Ste. Anne des Monts road, north shore, Gulf of St. Lawrence. Engineering Staff, Public Works, harbour works, &c. On Pacific Railway survey, British Columbia. Resident Engineer, lock and dam, River Yamaska, Rivers St. Francis and Nicolet, dredging and improvement. Resident Engineer, harbour works, south shore, River St. Lawrence.	1861-62. 1st Nov., 1864-70. 1871 to 1873. 1877 to 1888. 1888-91.
Michaud, Cléophas	Engineering Staff, Public Works, harbour surveys. do do do	June, 1873. 1884-85, 1887-88. 90.
Mignault, J. O. C., B.A.	Engineering Staff, Public Works, do Reconnaissance of Gatineau River, and upper waters of the Ottawa Valley.	1884-87-88. 1889.
Millidge, E. G.	Resident Engineer, St. Peter's Canal, Enl. Cape Breton, &c. Canal commenced by Nova Scotia Government in September, 1854, suspended 1856, resumed in 1866, and completed in 1869. Enl. 1875-1881. Total cost to 30th June, 1880, \$677,267.27. Assistant Engineer, Public Works, Maritime Provinces. Resident Engineer, Antigonish,—Public Works and surveys, Cape Breton, Guysborough, Antigonish and Pictou Counties, Nova Scotia. Member Canadian Society of Civil Engineers.	1875 to 1881. 1872 to 1888. July, 1889-91. 11th Nov., 1887.
Mills, J. B.	Engineer on the first construction and afterwards on enlargement of the Delaware, Hudson and Erie Canals. Projected Cedars Canal. Cornwall and Williamsburgh Canals. Chief Engineer, Beauharnois Canal. Projected Caughnawaga Canal. Chief Engineer of the Genesee Valley Canal, afterwards on the Kanawha projection in Virginia, U.S., after his departure from Canada. Consulting Engineer and vice-president of the Pottsville and Danville road, in Pennsylvania. Consulting Engineer on the Adirondack Railway, State of New York. Afterwards retired to his home in Peekskill, on the Hudson, N.Y. Born in Chester, 27th March, 1800. Died at Peekskill, N.Y., 29th June, 1871.	1833. 1833-47. 1843. 1847-48.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Mills, J. B.—Cont.....	NOTE.—John Jonas, Hon. John Hamilton, John Macaulay, Philip Vanquoghnet, Hiram Norton, George Longley and Peter Shaver were appointed Commissioners to report on improvement of navigation of the St. Lawrence, 1833. John Jonas, President. Samuel Keefer appointed secretary to the Commissioners, 28th March, 1833. The Commissioners' first report is dated 13th Dec., 1833.	
Minnitte, R. C.....	Baie Verte Canal, first survey for a canal of about 4 feet draught, to be fed by fresh water, through valley of Au Lac to the Missiguash Lakes and thence to River Tidnish.....	Oct., 1822.
Moberley, Frank.....	Engineer, Collingwood Harbour Works Previously employed on Railways.	8th Aug., 1890.
Monro, Thomas.....	On Grand Trunk Railway, surveys and construction, Montreal to Kingston, and St. Lawrence Bridge Survey, Montreal; also, Water Works survey and plan, Montreal On Toronto and Georgian Bay, proposed canal, in charge of summit level survey Assistant Engineer, Hamilton Water Works; Resident Engineer, Hamilton and Port Dover Railway..... Public Works, Ontario, &c., Harbours of Refuge; water supply to Public Buildings, Ottawa, &c..... One of the Government Inspectors of Railways..... Engineer of Water Works, Pit Hole City, Pennsylvania... Survey, Lake Shebandowan on the Dawson route..... Welland Canal enlargement, survey and location Engineer in charge of Welland Canal	1850 to 1857. 1857. 1857 to 1859. Feb., 1860-69. 1st May, 1863. 1865. 1869. 1870-71. July, 1872, to 31st Jan., 1873. 1873-88. 30th April, 1885. 20th Jan., 1887. 1888. 1890-91.
	Resident Engineer, Northern Division, Welland Canal enlargement..... Invited to International Congress of Navigation at Brussels Member of Institution of Civil Engineers, Great Britain... Member Canadian Society of Civil Engineers..... Aqueducts, Merrittton, Simcoe and Niagara Falls..... Examination and report, projected enlargement of Beauharnois Canal, and on projected new canal, north shore, County of Soulanges, and preliminary location survey, &c.....	1873-88. 30th April, 1885. 20th Jan., 1887. 1888. 1890-91.
Moody, Lieut., R. E....	Survey of Lake St. Peter with Capt. Boxer.....	1844.
Mooney, William.....	Engineering Staff, Lachine Canal enlargement, Montreal Division..... Yamaska lock and dam, &c., Assistant Engineer..... Died 2nd January, 1885.	1873. 1880-84.
Moore, Robert, Master Mariner.....	Report with John McTaggart on Burlington Bay Canal...	30th March, 1827.
Morris, Wm., M.I.C.E..	Engineer with Kinipple. Princess Louise Docks, Quebec and Lévis Graving Dock... Esquimalt Graving Dock See Kinipple & Morris.	1875-82. 1879-83.
Mortimer, Henry J....	Assistant of Samuel Hazlewood, District Engineer, Canadian Pacific Railway. Profile and location Lock—Fort Frances Canal, at foot of Rainy Lake, on the Dawson Route..... Plan of Lock, &c., afterwards modified by G. F. Baillairgé, Assistant Chief Engineer, Public Works..... See Baillairgé, Hazlewood, Sutherland, H. Thompson.	1875. 1876.

Died 19 March 1903

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Mothersill, George A....	Loudon and South-West Railway, England	1859-63.
	Missouri Pacific Railway, and M. K. and Texas Railway; Contracting	1868-69.
	Intercolonial Railway; Engineering Staff and Sub-Contractor	1869-72.
	With Chief Engineer of Canals at Head-quarters, Ottawa	1873-91.
Monro, Alex., P.L.S....	Assistant Engineer, Baie Verte Canal. Survey by G. F. Baillairge	1871-1873.
	One of the Historians of New Brunswick and Nova Scotia	1885.
Murdoch, William	Collingwood Breakwater, Lake Huron.	1871.
	Port Arthur, River Kaministiquia, &c., Ontario, harbour works, Resident Engineer, Public Works, Lake Superior	15th Oct., 1884-91.
	Previously employed, chiefly on the Canadian Pacific, Pictou and Trenton, Manitoba and South-Western, North-West Central and Hudson Bay Railways, as Resident, District or Chief Engineer	1871 to 1884.
	Member Canadian Society of Civil Engineers	20th Jan., 1887.
Murphy, Martin	Provincial Engineer, Nova Scotia	1867-91.
	Member Canadian Society of Civil Engineers	3rd Feb., 1887.
Nagle, Gerald J.	First Superintendent, Ottawa River slides and booms	to 1846.
	Specification, River Trent slides and booms	June, 1843.
Nelson, J. M.	Floods at Montreal, Assistant Harbour Engineer	1884.
Nichol, Col. Robert, Commanding R. E.	Rideau Canal route surveyed under his orders by Captain Jebb, R. E.	1815.
Nicolls, Gustavus, Col., R. E. (Lt. Col., 1816, Col., 1832)	Succeeded Col. Elias Walker Durnford in command of R. E. and Ordnance Canals	1831.
	Special Report, Carillon Canal	5th May, 1834.
Nish, A. G.	Chief Engineer, harbour works of Montreal, and ship channel, River St. Lawrence, Montreal to Quebec	1864 to 1875.
	Afterwards contractor on Government works at Esquimalt graving dock, British Columbia, &c., up to 1883.	24th Feb., 1880-83.
	Died 31st January, 1888.	
Norman, Thomas E.	Chats Canal, north side River Ottawa	1853.
	Report on survey of the islands and on the water power of the Chats Rapids, River Ottawa	1st March, 1858.
Normand, J. B.	River St. Maurice, slides, booms, dams, piers	1853-59.
	Appointed Commissioner to report on cause of floods between Quebec and Montreal.	4th Oct., 1873.
	Report on causes of floods	21st Feb., 1874.
	Acting Superintendent, River St. Maurice slides and booms	1875-78.
Odlum, Ed. John	Assistant Engineer, Welland Canal enlargement, Southern Division	Nov., 1872-88.
	Engineer in charge, improvements Welland Canal	June, 1889-91.
Oldfield, Lieut.-Col. J., Commanding R. E.	Report on experiments, blowing in gates at Quebec	11th, 13th July, 1840.
Ostell, John	Architect, Surveyor and Engineer, Montreal	1847-48.
Page, John, sen.	Assistant Engineer and draughtsman, Welland Canal	1842.
	Assistant to Chief Engineer, Welland Canal	Sept., 1842.
	Consulting Engineer, Welland Canal	1846.
	Resident Engineer, Junction and Williamsburgh Canals	1850-51.
	Superintending Engineer, canals below Kingston	1852-53.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Page, John, sen.	Chief Engineer, Public Works, Provinces of Quebec and Ontario.	5th Nov., 1853.
	Deputy Commissioner, Public Works, Quebec and Ontario.	8th March, 1864.
	Chief Engineer, Public Works, Canada.	15th March, 1864-79.
	Welland Canal enlargement, survey commenced.	1870.
	Reports on enlargement of canals, Lake Erie to Montreal.	1872 to 1877.
	Report on proposed Baie Verte Canal.	10th Dec., 1873.
	Special and general report on canals, River St. Lawrence.	16th Feb., 1880.
	Chief Engineer of Canals of Canada.	1879-90.
	Fourth President, Canadian Society of Civil Engineers, proposed for 1890.	1890.
	A member of Royal Commission to examine and report on Montreal Harbour improvements.	1890.
	Died in his office, Ottawa, 2nd July, 1890, aged 75.	
Page, John, jun.	Lachine Canal enlargement, Engineering Staff.	April, 1876-79.
	Assistant Engineer, Cornwall Canal.	1880-85.
	Died 14th April, 1885.	
Papineau, L. G.	Engineering Staff, Public Works, at Montreal, &c.	1880-84.
	do do Chambly Canal, &c.	1881-83.
	do do River Richelieu survey, &c.	1884-91.
	Associate member Canadian Society of Civil Engineers.	24th Feb., 1887.
Painchaud, Antoine	Resident Engineer, construction of roads between Gaspé Basin and the St. Lawrence.	1858-67.
	President of Corporation of Land Surveyors, P.Q.	1884-90.
Parent, Etienne H.	Seigniorial Cadastral Office.	1856-59.
	At headquarters and on surveys, &c.	15th Sept., 1864-71.
	Resident Engineer, Grenville Canal.	July, 1872-78.
	Superintending Engineer, Carillon, Grenville, Culbute canals do Lachine, Beauharnois, Chambly Canals, St. Ours Lock and Dam, &c.	4th Feb., 1879, to 1st May, 1880.
	Member Canadian Society of Civil Engineers.	12th May, 1880-91.
Pariseau, L. S.	Engineering Staff, Grenville Canal enlargement.	20th Jan., 1887.
	do do River Richelieu survey.	1878 to July, 1884.
	Associate member Canadian Society of Civil Engineers.	1885-91.
		24th Feb., 1887.
Pearse, B. W.	Resident Engineer, Public Works, British Columbia.	July 1871 to 1881.
Perley, George E.	Engineering Staff, Ottawa.	2nd June, 1884-88.
	Assistant Engineer, Kingston graving dock.	June, 1888-91.
Perley, H. F.	Engineer Staff, Government of New Brunswick.	Feb., '48, to June, '52
	do do do Nova Scotia.	Aug., '56, to Dec., '60
	Engineer in charge of Government Railways, New Brunswick.	May, '63, to Aug., '65
	Engineer in charge, St. Peter's Canal, Cape Breton.	May, '70, to May, '72
	Superintending Engineer, Public Works, Maritime Provinces, Federal Government.	31st Jan., 1880-90.
	Chief Engineer, Public Works, Canada.	1st May, 1872.
	Chief Engineer, harbour works, Quebec; graving dock, Lévis.	25th Nov., 1880-91.
	Montreal Flood Commission.	Sept., 1883-90.
	Chief Engineer, ship channel, Montreal to Quebec.	1886-88.
	Vice President, Canadian Society of Civil Engineers.	31st Dec., 1888-90.
		24th June, 1887-90.
Perry, Capt. Geo. H.	Chata Canal, Ottawa and French River surveys.	1853-58.
	Resident Engineer, Culbute Canal, Upper Ottawa.	Sept., 1873-87.
	Died 1888.	
Phillipotts, Lieut.-Col., R. E.	Engineer in charge of Cornwall Canal construction.	1886.
	Reports on inland navigation of Canada, by order of Lord Durham, dated 19th Oct., 1838.	31st Dec., 1839, to 3rd Aug., 1840.
	Reports on proposed enlargement of Welland Canal, etc.	1841-43.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Pilkington, Woodford, M. I. C. E.	Resident Engineer, harbour works, Quebec, and graving dock, Lévis.....	1876 to 1883.
	Now employed in India	1889.
Piper, Capt. R. E.	Commissioner, harbour works, Montreal.....	1830-32.
Plunkett, E. W.	Plans, estimates, etc., Harbour Works, Quebec.....	15th Dec., 1874.
Pound, Nicholas.....	Engineering Staff, Public Works, harbour surveys	1888, 89, 90.
Power, Samuel.....	Principal Engineer on Welland Canal.....	1842-45.
	Specification for construction of lock gates, Welland Canal.	Oct., 1843.
Pringle, Thomas	Member of Commission to report on Water Power, Lachine Canal.....	1887.
Pritchard, M. B.	Assistant Engineer, Welland Canal.....	1843-44.
Raaslof, Col. de, Russian Engineer	Submarine Engineer. Examined River St. Lawrence rapids from Lake Ontario down to foot of Lake St. Louis, at Lachine, with Maillefert.....	1854.
Raney, G. W.	Superintending Engineer, River Trent canals, slides, dams, and booms, from Trenton, Lake Ontario, up to Lake Seugog, inclusive.....	4th May, '55, to July, 1873.
	Member Canadian Society of Civil Engineers.....	20th Jan., 1887.
Read, Capt. J. M.	Royal Staff Corps of Engineers, Imperial Government. In charge of Grenville Canal construction.....	1824.
Rendall, James M.	"A Civil Engineer of considerable eminence." Consulting Engineer with Hon. H. H. Killaly, Capt. Bayfield and Capt. Beaufort, on the Lake St. Peter navigation project.—See Killaly's Report, 1843-44.	
	Report on Welland Canal—in progress.....	31st May, 1830.
Rhéaume, L. N.	Engineering Staff, Lachine Canal, second enlargement ..	1st Nov., 1877-84.
	Rapide Plat Canal enlargement.....	Dec., 1884.
	Cornwall Canal do	1st July, 1885-91.
	Member Canadian Society Civil Engineers	20th Jan., 1887.
Richard, J. F.	Harbour surveys, Province of Quebec	1881-89.91.
Richards, G. H., Capt. R. N.	Admiralty Charts, British Columbia, Pacific coast.....	1858-63.
Rigney, James.....	Engineering Staff, roads, Eastern Townships, P.Q.....	1842.
	Superintending Engineer, Cornwall Canal.....	1843.
	Assistant Engineer, River Trent works at Bobasgeon, &c.	1843-49.
	Died in California, 6th August, 1863. Interred at London, Ontario.	
Ritchie, Thomas.....	Engineering Staff, Maritime Provinces.....	1888.
Roberts, Nathan S. Eng.	Assistant Engineer, with Benjamin Wright, on Erie Canal. Examination of route for projected Welland Canal with Messrs. Hall and Clowes, British engineers	1816.
	Report on projected Welland Canal.....	1824.
	Engineering Staff, construction Welland Canal—appointed Canal commenced 30th Nov., 1824.	Aug., 28, 1824.
	do opened 30th Nov., 1829.	1st April, 1825.
	Wooden locks 110 by 22; 7½ feet water on sills.	
	First Directors Welland Canal Co., appointed 15th May, 1824.	
	Sir John Henry Dunn, Wm. H. Merrit, John Decou, Samuel Clowes and George Keefer, Chairman.	

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Robertson, G. E.	Engineering Staff, Lachine Canal, second enlargement, Lower or Montreal Division, &c. Cornwall Canal enlargement, upper half Member Canadian Society of Civil Engineers.	Aug., 1873-85. July, 1885-91. 20th Jan., 1887.
Robinson, Arthur G.	Assistant Engineer, Lachine and Chambly Canals.	1843-48.
Rogers, R. B.	Assistant Engineer, River Trent slides, booms and canals. do Midland Division, Grand Trunk Railway do Survey Trent Valley Canal. Superintending Engineer, River Trent slides, booms and locks Bachelor of Applied Sciences and member Canadian Society of Civil Engineers.	1878 to 1881. 1881 to 1882. 1882 to 1883. 1st July, 1884-91. 12th May, 1888.
Rosa, Joseph	Engineering Staff, roads, bridges, piers, harbours and river improvements, &c., Province of Quebec. Assistant Engineer, Baie Verte Canal Survey. do Cedars Canal Survey.	29th May, 1856-91. 1870-72. 1872-75.
Rosamond, Joseph A.	Report, River St. Francis, Pierreville Mills. Engineering Staff, Lachine Canal enlargement. Resident Engineer, Murray Canal, Lake Ontario. Member Canadian Society of Civil Engineers.	13th July, 1875. June, 1876-82. June, 1882, to 1891. 24th Feb., 1887.
Ross, John LeBreton.	Engineering Staff, Public Works, Ontario and Quebec. Died, May, 1876.	December, 1856-76.
Rowan, James H.	Engineering Staff, Public Works, canals and railways. Subsequently District Engineer, Canadian Pacific Railway, Manitoba.	May, 1860-72. 1872 to 1882.
Roy, Charles F.	Harbours, Province of Quebec and Maritime Provinces. Ship channel between St. Roch and Ile-aux-Coudres. Was elected for the County of Kamouraska as Member of the House of Commons, 1877-78. Died, 13th April, 1882.	1870-80. 1881. 1881.
Roy, Thomas.	Report on Roads, Province of Ontario.	March, 1830.
Roy, George P.	Engineering Staff, Public Works, harbours, Quebec.	1881-82, 1884.
Roy, Joseph R.	Engineering Staff, Public Works, river and harbour surveys, Quebec. Associate Member of Canadian Society of Civil Engineers.	1883-84. 24th Feb., 1887.
Royal Staff Corps, Imperial Government.	Cascades, Split Rock, Coteau du Lac, Old Fort. Canals enlarged, locks 12 feet wide, water $3\frac{1}{2}$ feet Ordnance canals, north side River Ottawa, at Carillon, Chute à Blondeau and Grenville. Locks 108 by 20 and 130 $\frac{1}{2}$ by 32 $\frac{1}{2}$, with 6 feet water on sills, designed. Completed.	1817. 1819. 1833.
Rubidge, F. P.	Surveyor, Eng., &c., River Trent and other works Assistant Chief Engineer, Public Works, and Architect of Canada prior to and after Confederation. Report on proposed landing piers below Quebec. In charge of surveys and investigations, &c., Lake St. Peter. Report on River L'Assomption lock, dam and dredging. do bridges, &c., Province of Quebec, &c. Plans of bridges constructed across Rivers St. Maurice, Champlain, Ste. Anne de la Pêrade, Jacques Cartier, on Provincial Highway, north shore of St. Lawrence, and Rivers Etchemin, Becancour, Godfroi, Nicolet, Melbourne, Chateaugay, &c., on Main Roads, south side of St. Lawrence. Projected docks at "Cap Rouge," above Quebec. Survey and report.	1836-41. 15th Dec., 1841, to July, 1871. 15th Nov., 1846. 1847. 27th Dec., 1848. 20th Nov., 1848. 1843 to 1849. 1846.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Rubidge, F. P.	Construction and improvements Parliament buildings and residence of Governors General, &c., at Quebec, Montreal and Toronto.	1844 to 1865.
	Fourteen District Court Houses and Jails constructed in Province of Quebec.	1859 to 1862.
	Commission of Enquiry, Ottawa Parliament and Departmental Buildings.	1862-63.
	Improvements—Governor General's residence, at Rideau Hall, Ottawa.	1865-1871.
	Reports on buildings and other works.	1846 to 1871.
	Superannuated.	July, 1871.
	Residing in Montreal.	Dec. 1890.
Rubidge, Thomas S.	Engineering Staff, Williamsburgh Canal, construction.	1844-48.
	Superintending Engineer, deepening Galops Rapids, work commenced 1876 and completed 1882.	1876 to 1882.
	Superintending Engineer, Murray Canal, between Bay of Quinte and Presqu'île Bay, north shore Lake Ontario.	1881 to 1886.
	Superintending Engineer, Burleigh Canal, Buckhorn Canal, Fenelon Falls Canal, &c., on the River Trent, works commenced 1882, completed 1888.	1881 to 1888.
	Superintending Engineer, Williamsburgh Canals. Enlargement, &c.	1880.
	Superintending Engineer, Cornwall Canal enlargement, &c. Work commenced 1876 on lower half from Cornwall upwards.	1876-1891.
Russell, Lindsay A.	Engineering Staff, Public Works, survey Dawson Route. Fort William on River Kaministiquia near Thunder Bay, Lake Superior, to Fort Garry (Winnipeg), Manitoba.	1857-1859.
Russell, Alexander J.	Superintending Engineer, roads and bridges along north shore Baie des Chaleurs from Cross Point to Gaspé Basin.	1841 to June, 1846.
	Kimouski bridge contract, S. Bradley, and Jos. Garon.	23rd Nov. 1844.
	Died 12th November, 1887.	
Scott, David.	Assistant Engineer, Ottawa River slides and booms.	1st Oct., 1854-91.
Scott, William.	Report on foundation works, Point Pelee Light House.	1855-56-58.
	Report and Estimates, Rondeau Harbour.	1857.
Scott, W. R.	Sub-Assistant Engineer, Welland Canal.	1843.
Scott, W. L.	Assistant Engineer, Montreal Harbour Commissioners.	19th May, 1875.
	Member Canadian Society of Civil Engineers.	20th Jan., 1887.
Secord, William F.	Engineering Staff, S. Division, Welland Canal enlargement.	Oct., 1872, to Nov., 1888.
Shanly, Frank.	Formerly City Engineer of Toronto. Appointed Chief Engineer, Intercolonial Railway.	23rd June, 1880.
	Died 13th Sept., 1882.	
Shanly, Robert.	Canal survey, Ottawa to Lake Huron.	1857-58.
Shanly, Walter.	Superintending Engineer, Beauharnois Canal construction.	1842-48.
	Consulting Engineer, Welland Canal.	Jan., 1846.
	Chief Engineer Bytown and Prescott Railway.	1851-54.
	Report, Welland Canal enlargement.	11th Oct., 1854.
	Proposed ship canals, River Ottawa, Montreal to Lake Huron.	1857-58.
	Inspector of railways, and Engineer on various works.	29th Oct., 1864-91.
	Elected Member of the House of Commons, 1863-72, July, 1885-90.	
	Engineer of Royal Commission to examine and report on plans for the improvement of Montreal Harbour.	1890-91.
	Member Canadian Society of Civil Engineers.	24th Feb., 1887.

ENGINEERS Employed on Public Works, Canada—*Continued.*

Engineers.	Works.	Dates of Employment, &c.
Shaw, W. M.	Specifications, &c., Hamilton and Port Dover Road, London and Brantford, Brantford and Woodstock	1842-44.
Simmons, Lieut. J. A., Royal Engineer.	Report of an experiment made at Quebec, 13th July, 1840, to destroy a barrier gate by gunpowder.	17th July, 1840.
Sims, A. H.	Reports on roads, &c., District of Gaspé.	1847-48.
Simpson, Frank.	Engineering Staff, Welland Canal, N. Division.	1876.
Sippell, John G.	Superintending Engineer, canals, Province of Quebec, excepting Ottawa Ordnance Canals, until 1857. Superintending Engineer, Lachine and Ottawa Canals enlargement	July, 1853 to 1877. 1870 to 1877.
	Consulting Engineer, Lachine and Ottawa Canals	1877-79.
	Died, 26th September, 1879.	
Sirois, Joseph Eustache..	Engineering Staff, harbour works, below Quebec, and straightening of ship channel between Quebec and Ile-aux-Coudres	1881-90.
Slater, James Dyson....	Welland Canal, Assistant Engineer. Assistant Engineer on the Ottawa River slides and booms. Engineer on macadamized roads, Ottawa to Aylmer and Bell's Corners. Resident Engineer, location and construction of Bytown and Prescott Railway, under Walter Shanly, Chief Engineer. Montreal, Bytown and Pembroke Railway surveys. Ottawa ship canal survey, with James Stewart, C.E., &c., Robert Shanly, G. H. Perry, T. E. Norman and Mackenzie. Superintending Engineer, Rideau Canal, &c.	1842-46. 1846 to 1849. 1849-51. 1851-54. 1854-56. 1857-58. 10th June, 1858, to 1st Oct., 1872.
	Resigned on 12th September, 1872. Died, 26th October, 1876.	
Smith, D. C.	Superintendent of light-houses above Montreal	21st June, 1855-80.
	Died, 1st May, 1880.	
Smyth, Major General Sir J. Carmichael.	Born in London. Commissioned in Royal Artillery. Transferred to Royal Engineers. Married to Harriet, daughter of Gen. Robert Morse, R.E. Baronet. Major General. Report on Welland Canal	22nd Feb., 1779. 1794. 1795. 28th May, 1816. 1821. 1825. 1825.
	Joint report and estimate of proposed Rideau Canal works, together with Lieut.-Col. Sir G. Hoste and Major Harris, R.E., recommending locks 108 by 20 feet, with a depth of 5 feet water.	1825.
	Reported to the Board of Ordnance adverse to Col. By's "enlarged views" touching the construction of projected canals. Col. By wrote to General Mann, 13th July, 1826, recommending that for commercial and military purposes it was expedient to construct the canals of sufficient size to admit the passage of steamers 110 to 130 feet in length, 40 to 50 feet wide, and drawing 8 feet of water. The following were the canals referred to by Col. By, and his estimate of their cost, viz. :— Welland Canal, £400,000; Rideau, £400,000; Grenville, £100,000; north side Island of Montreal, £150,000; Richelieu, £150,000. In deference to Major General Sir James Carmichael Smyth's Report, the canals were ordered to be constructed on the limited dimensions first determined on. See Mr. Douglas Brymner, Archivist's Report, 1889.	

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Smyth, Major General Sir J. Carmichael.....	Author of "Précis of Wars in Canada, 1755 to Treaty of Ghent, 1814." Published for private use by order of the Duke of Wellington..... And afterwards by his son, Sir James Carmichael Smyth... Appointed Governor of British Guiana..... Died at British Guiana, 4th of March, 1838.	1826. 1862. 1833.
Snow, W. B.....	Engineering Staff, Public Works, Ottawa..... Harbour surveys, Ontario, Quebec and Maritime Provinces Previously employed chiefly on railways and other important works in England where he acted as agent to the Bishop of Durham, after which he was employed in Africa..... On various works in Canada.....	1st Aug., 1880-91. 1882 to 1887. 1837 to 1876. 1876 to 1880.
Soare, W. F.....	Engineering Staff, Public Works, harbours, Ontario..... Died at Port Stanley, 1889.	1885.
Spence, J. B.....	Engineering Staff, Railways and Canals, Ottawa, &c.....	Oct., 1876-91.
Stark, David.....	Sub-Assistant Engineer, Welland Canal..... Secretary, Commission of Enquiry, Ottawa Parliament Buildings..... Report on supplementary survey, Baie Verte Canal..... Superintending Engineer, River Ottawa canals..... do River Trent, new works, completion.	1843. 1862-63. 27th Dec., 1872. 1st May, 1880-90. April, 1887-88.
St. George, Percival W.....	On Flood Commission, Montreal..... Engineer and road surveyor, Corporation of Montreal..... Member of Council, Canadian Society of Civil Engineers..	1886-88. 3rd Dec., 1883-91, 1887-91.
<i>S/LA</i> Laurent, Arthur.....	Engineering Staff, Public Works, harbour surveys, Province of Quebec..... Employed as draughtman at head-quarters.....	1885-89. 1889-91.
Steckel, Louis Joseph René	Assistant Engineer of G. F. Baillairgé on survey of south shore St. Lawrence, Gulf Road, Ste. Anne des Monts to Cape Rosiers and Gaspé Basin..... Engineering Staff, Public Works, Ontario and Quebec..... Chief Assistant Cedars Canal Survey..... Survey and borings, Princess Louise Basins, Quebec..... Engineering Staff, Chief Clerk, Canada..... Hydrographic survey and Geodetic levels, Rivers St. Lawrence and Richelieu..... Member Canadian Society of Civil Engineers.....	Jan., 1861-62. April, 1863-74. 1874-75. 1875-76. 1st July, 1880. July, 1881-90. 9th Feb., 1888.
Stehelin, Captain, R.E..	Assistant General Superintending Engineer, construction Grenville Canal.....	1819-33.
Stevenson, Alexander...	Survey with André Trudeau for projected canal between Lakes St. Francis and St. Louis..... Report on projected Beauharnois Canal by A. Stevenson and N. H. Baird..... Adopted on recommendation of Samuel Keefer in his report, 17th February, 1842.	1830-31. 1833.
Stewart, James.....	Engineering Staff, Public Works, &c., on various works... Map of ice shelves at Montreal, St. Ours Lock, Beauharnois Canal..... Road proposed from Malbaie to Ha! Ha! Bay, Saguenay. Survey and plans, proposed piers below Quebec..... First General Report on Public Works up to..... Beauharnois and Lachine Canals surveys and new works... On Grand Trunk Railway..... Ottawa and Lake Huron proposed ship canal survey... See Walter Shanly's Report, 22nd March, 1858.	1843 to 1858. 1843-44-45. 1847. 1846-47. 1849. 1847-54. 1854-55-56. 1857-58.
Stoker, George.....	Assistant Engineer, Welland Canal.....	1864.

Engineers Employed on Public Works, Canada—*Continued.*

Engineers.	Works.	Dates of Employment, &c.
Strong, W. O.....	Engineer in charge, under H. F. Perley, Chief Engineer of Public Works, of Craving or Dry Dock at Kingston, Lake Ontario..... Plans and specification of dock, signed by H. F. Perley, Chief Engineer of Public Works..... Length of dock, 280 feet. Width of dock, 79 feet at coping level; 47 ft. on floor. Entrance width of dock, 55 feet. Depth at entrance of dock, 15½ feet below the low water of Lake Ontario. Height of water varies 3½ feet. Contract signed by N. K. and M. Connolly and commenced..... Date of completion stipulated	1st Dec., 1888-91. 14th Feb., 1889. 23rd April, 1889. 23rd April, 1891.
Sullivan, J. H.....	Engineering Staff, Public Works, improvement of rivers, &c..... Resident Engineer, deepening feeder, Lake St. Francis to River St. Louis..... River Assiniboine improvement	1880-87. 1883-85. 1886.
Summerville, Peter.....	Assistant Engineer, Public Works, surveys Victoria Harbour and Fraser River, British Columbia..... Member Canadian Society of Civil Engineers.....	1st Aug., 1883, to 6th July, 1887. 9th Feb., 1888.
Sutcliffe, John.....	Engineering Staff, Lachine Canal enlargement..... do Ste. Anne Canal..... St. Gabriel Basins, Lachine Canal..... Left service, May, 1886. Member Canadian Society of Civil Engineers.....	16th July, 1872-81. July, 1881-86. Aug., 1882-86. 27th June, 1888.
Sutherland, Hugh.....	Superintending Engineer, Fort Frances Canal, at foot of Rainy Lake, on the Dawson route..... Canal, 800 feet long, with a lock 200 feet by 36½ feet, and 7 feet depth of water on lower sill during low water, opening navigation from Kettle Falls, at Head of Rainy Lake, to N.-W. angle of Lake of the Woods, 164 miles. Work commenced..... do completed, except lock gates..... Cost of construction, \$288,278.51, to..... See Baillairgé, Hazelwood, Mc-timer, H. Thompson.	1875-79. 14th June, 1875. 1878. 22nd Jan., 1879.
Swift, W. H. (from Boston, U.S.).....	Consulting Engineer, Caughnawaga Canal, recommends route proposed by J. B. Mills, 19th February, 1848.....	6th June, 1855.
Symmes, H. R.....	Superintending Engineer, River St. Maurice, slides and booms, &c..... Died 8th October, 1875.	24th Feb., 1858, to 8th Oct., 1875.
Taché, Joseph Charles...	Engineering Staff at Head-quarters..... Chief Draughtsman..... Harbour works, &c., below Quebec, surveys and construction	29th Jan., 1872. 1st July, 1883-91. 1882 to 1889.
Taggart, Nathaniel.....	Patentee of lock gates of solid timber for canals.....	1843.
Tait, Charles Maitland..	Employed on survey of Beauharnois Canal.....	1842-43.
Tait, T. M.....	Engineer of harbour works, Montreal.....	1845 to 1849.
Talcott, W. H.....	Report on Shubenacadie (Chikabenakady) Canal..... Survey, report and estimates, St. Peter's Canal.....	1855-56. 1856.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Taylor, Thomas Dixon..	Assistant Engineer, construction Intercolonial Railway... Surveys and construction Canadian Pacific Railway. Also employed during part of Railway survey, Newfoundland Resident Engineer Tay Canal.....	May, '69, to Dec., '74. Feb., '75, to Sept., '77. 1878-79 and '80. July to Dec., 1880. March, 1882, to Jan., 1889.
Taylor, Mr.	Master attendant Kingston Dockyard prior to Survey of Lake St. Peter with Capt. Boxer.....	1845. 1844.
Taylor, David	Survey of canal route, Lake Huron to Ottawa River..... Reported thereon together with David Thompson and William Hawkins, to the Hon. John Macaulay, Surveyor General of Upper Canada, John S. Cartwright and Capt. Baddeley, Royal Engineers, according to an Act of the Parliament of Upper Canada, of 4th March, 1837. <i>See App. 30, pp. 837 to 847, by G. F. B., Public Works Report, 1867-82.</i>	1837.
Telford, Thomas.....	Founder of the Institution of Civil Engineers, Great Britain, incorporated 3rd June, 1828. Report on projected Shubenacadie Canal; and also on Baie Verte Canal, between Bay of Fundy and Gulf of St. Lawrence.....	1825-26.
Temple, E. B.....	Assistant Engineer, North Shore Railway..... do do by Govt. of Quebec. Division Engineer, Location Newfoundland Govt. Railway. do Toronto, Grey and Bruce Railway Assistant Engineer, Ontario Division, C.P.R. Resident Engineer, Toronto Harbour Works, appointed... Elected Member Canadian Society of Civil Engineers.....	May, '71, to Oct., '75. May, 1876, to Ap. '80. 1880. June, '81, to Oct., '83. Oct., '83, to Mar., '88. April, 1888. 23rd May, 1889.
Thom, G., Brevet Brigadier General, U.S.A..	Report on saw-dust obstruction in navigable rivers.....	27th Aug., 1872.
Thompson, David.....	Astronomer and Surveyor, engaged in surveying and defining boundary line, for Great Britain, between Canada and the United States..... In the report of the British and United States Commissioners appointed to trace the line of boundary under Art. VII of the Treaty of Ghent, dated 23rd Oct., 1826, Mr. Thompson is spoken of as principal surveyor to the Board and as signing in that capacity the 34 maps prepared. <i>See Hertalet's Commercial Treaties, vol. 13, page 906.</i> On the River St. Lawrence..... Survey of Lake of the Woods..... Principal consulting engineer Welland Canal..... Survey of Lake St. Francis, &c..... Survey of canal route, Lake Huron to Ottawa River..... Survey of Lake St. Peter channel and estimate of proposed dredging for ship channel.....	1816 to 1827. 1817. 1825. 1825-28. 1832-34. 1837. 1841.
Thompson, E. W.....	Assistant Engineer, Carillon Canal, new locks and dam...	July, 1872-78.
Thompson, H. W.....	Assistant Engineer of Hugh Sutherland, Fort Frances Canal, at the foot of Rainy Lake..... <i>See Baillairgé, Hazlewood, Mortimer, Sutherland.</i>	1875-79.
Thompson, H. B.....	Lachine Canal enlargement..... Assistant Resident Engineer, Culbute Canal, Upper Ottawa do do Carillon Canal Enlargement..	Dec., 1872. Sept., 1873-78. 1878-85.
Thompson, H. G.....	Reports on surveys and maps, with soundings of River St. Lawrence above Lake St. Louis.....	Sept. & Dec., 1836-42.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Thompson, Lieut.-Col.	Royal Engineer under the Imperial Government. Succeeded Major Bolton, R.E., as Superintending Engineer of the Rideau Canal.	1841.
Thompson, Major Francis Tenger	Testimony <i>re</i> Rideau Canal lands.	18th March, 1845.
Thompson, W. G. McNeil	Member of Institute, Civil Engineers, England. Resident Engineer, Southern Division, Welland Canal enlargement. Resident Engineer in charge, Saut-Ste.-Marie Canal, Canada. Entered the service of the Dominion Government in April, 1868, as Division Engineer on surveys and location of the International railway, and served in Nova Scotia, New Brunswick and Quebec Provinces until the spring of 1872. In charge of the survey of Lake St. Louis. Adolphe Larue, P.L.S., surveyed Lake St. Louis, 1836.	1872-88. Jan., 1889-91. Spring, 1872.
Tibbett, Hiram	Description of a projected route for the Welland Canal.	1823.
Tomlinson, Joseph	Engineering Staff, Public Works, Canada Superintending Engineer, light-houses, Canada Inspector of bridges on railways, &c Superannuated	1st Jan., 1870. 5th May, 1871-80. 9th Feb., 1880-86. 16th Oct., 1886.
Townsend, T. B.	Engineering Staff of Chief Engineer, Public Works, Ottawa Contractor for lock gates, Welland Canal enlargement.	Sept., 1872-80. 17th July, 1880, to 29th July, 1882.
Tracy, B. H.	Survey of projected Caughnawaga Canal route, from Lake St. Louis to Lake Champlain <i>See</i> Mills, Jarvis, Gamble, Swift.	1854.
Tremblay, A. J.	Engineering Staff, harbour surveys below Quebec Student Canadian Society of Civil Engineers	1888-89. 20th Jan., 1887.
Tremblay, W.	Engineering Staff, Harbour Surveys, Lake St. John.	1889-90.
Trudeau, André	Survey with Alex. Stevenson in connection with improvement of water communication between Lakes St. Francis and St. Louis	1830-31.
Trudeau, Louis E.	Engineering Staff, harbour surveys, &c. do canals, &c., Province of Quebec.	July, 1875-80. 1880-91.
Trudeau, Toussaint	Assistant Engineer on railways, &c., Canada and United States Appointed Secretary of Public Works, Ontario and Quebec. Chief Engineer, Public Works Assistant Commissioner, Public Works, Ontario and Quebec Deputy Minister Public Works, Canada do Railways and Canals, Canada.	1846 to 1850. 13th Dec., 1850-64. 8th March, 1864. 15th March, 1864. May, 1868-79. 22nd Sept., 1879-91.
Trutch, Sir J. W., C.M.G.	In charge of Public Works, including Esquimalt Graving Dock, British Columbia Previously Lieut.-Governor of British Columbia. Member Canadian Society of Civil Engineers.	1881 to Jan., 1888. 17th Sept., 1887.
Tully, Kivas	Engineer, Toronto Harbour Commissioners. Proposed Georgian Bay Canal, Lake Ontario to Lake Huron	1853-91. 1845-51.
Twiss, Capt.	Commanding Officer of the Royal Engineers. The first canals on the north side of the St. Lawrence, between Lakes St. Louis and St. Francis, were constructed under this engineer, as designed by Governor Haldimand, between the years	1779 and 1783.

Engineers Employed on Public Works, Canada—Continued.

Names of Engineers, &c.	Engineers.	Works.	Dates of Employment, &c.
	Twiss, Capt.	They were located at the Cascades, Split Rock, Trou du Moulin and Côteau du Lac, the locks being from 6 to 7 feet in width between the gates with a depth of 2 to 2½ feet of water on the sills, for the passage of small boats, with from 39 to 40 barrels of flour. 263 bateaux, at 10s., 2 canoes and 1 boat, at 5s. each = £132 5 0, for tolls, passed through the then existing canals, during the season of 1781. See his report dated For further details subsequent to the above, see record of Col. Gother Mann, R.E.	3rd Dec., 1781.
	Valiquet, Ulric.	Engineering Staff, Public Works, Ottawa and below Quebec In charge of various works below Quebec. Engineer in charge, Lévis Graving Dock	May, 1873-89. 1885-90. 13th Oct., 1890.
	Vaughan, Capt.	Superintendent of dredging, new straight channel, Lake St. Peter In charge of light-house at Belle-Ile. Died at Quebec, 9th Dec., 1869.	1844-46. 1855-61.
	Vavasour, Lieut., R.E.	Engineering Staff, Grenville Canal	1840.
	Walsh, Edmund J.	Assistant Engineer, Municipality and County Works, Province of Ontario. Assistant Engineer, C.P.R., Rocky Mountain Division. do Northern Pacific Railway & O. T. Co. Assistant and Division Engineer, C. P. Railway Assistant Engineer, Cape Breton Railway—for Department of Railways and Canals Engineer in charge of Division on Harvey and Salisbury Location Surveys—for Department of Railways and Canals Appointed Engineer for Govt. of Antigua, W.I.	1877-1880. 1881. 1882. 1882-1885. 1885 to 1889. 1889-1890. 1890.
	Walton, D. S.	Engineering Staff, Lachine Canal enlargement, St. Ours lock and dam, Chambly Canal, roads, bridges, &c., Hull to Grenville, By-town to l'Original, &c.	1843-49.
	Weller, J. L.	Engineering Staff, New Trent Canals. do Cornwall Canal enlargement, lower half.	July, 1882-88. Aug., 1888-91.
	Wells, Alexander W.	Engineering Staff survey, proposed Dawson Route, from Fort William, on the River Kaministiquia, Thunder Bay, Lake Superior, to Fort Garry or Winnipeg, Manitoba	1857 to 1859.
	Wells, Alphonse.	Engineering Staff, fixing boundary line under Ashburton Treaty of 1842.	
	Wells, Arthur	Engineering Staff, Public Works, Ontario and Quebec, roads, Eastern Townships, and Lachine Canal enlargement, &c.	1846.
	West, James.	Specification, bridge across westerly channel of the River Rideau, near its mouth. Proposed Georgian Bay, Lake Huron and Ottawa Canal.	5th July, 1845. 23rd Feb., 1856.
	Westmacott, Lieut. S., R.E.	Report on causes of floods in Montreal.	29th June, 1841.
	White, Lieut. H.A., R.E.	Report on experiment made at Quebec to destroy Sally Port gates with gunpowder	11th July, 1840. 1844.
	Willet, Herbert A.	Engineering Staff, Grenville Canal do South Div. Welland Canal Enlargement.	Aug., 1881, to Nov., 1888.
	Williams, J. B.	Engineering Staff, Public Works, River Saskatchewan improvement, &c., N.W.T.	1885-87.
	Wise, Frederick Ashford Milbank	Engineering Staff, survey of route for proposed Sault-Ste. Marie Canal, under S. Keefer, Chief Engineer of Public Works, Canada	1852.

ENGINEERS Employed on Public Works, Canada—Continued.

Engineers.	Works.	Dates of Employment, &c.
Wise Frederick Ashford Milbank.....	On Engineering Staff, Grand Trunk Railway, construction and maintenance..... On Engineering Staff, Public Works, surveys, harbours, &c., Ontario..... Resident Engineer, on the construction of the Erie and Niagara Railway, and the Buffalo and Salamanaca Branch of the Atlantic and Great Western Railway... Chief Engineer of the St. Lawrence and Ottawa Railway, and Assistant Engineer of the Ottawa Waterworks... Superintending Engineer, Rideau Canal, Ottawa to Kingston; and Tay Canal..... Superintending Engineer of the reconstruction of the Tay Canal, from Rideau Lake to the Town of Perth, Ontario. Old canal $8\frac{1}{2}$ miles long, with 5 blocks of $100 \times 20 \times 4$ feet depth of water on sills. Total rise, 28 feet. Built 1831-34, by a private company, under Act William IV, Chap. 2, Sec. 1, and other Acts..... New canal 7 miles long, with two locks each of 13 feet lift, and 134×32 , with $5\frac{1}{2}$ feet depth of water on sills during low water of river and lakes. Built by Manning & Co., contractors.. And by W. Davis & Co., contractors..... New canal opened..... Mr. Wise became a member of Canadian Society of Civil Engineers.....	1857 to 1860. 1860-63. 1864-66. 1866-72. 1st Oct., 1872-91. 1882-91. 1831.. 15th June, 1889, to 12th July, 1888. 12th July, 1888-90. 1890. 20th Jan., 1887.
Wolfe, Major Alex. Jos.	Superintending Engineer, Kempt Road, from St. Octave de M ^é tis, near the River St. Lawrence, to Cross Point, Baie des Chaleurs.....	1830-32. 1833.
Wright, Benjamin	Engineer in charge of Erie Canal, from Genesee to Albany. do Chesapeake and Delaware Canal. do Delaware and Hudson Canal. do Chesapeake and Ohio Canal. Engineer, New York and Harlem Railroad, prior to..... Report on Lake Francis, with map..... Projected Welland Canal enlargement..... do Williamsburgh Canals..... Consulting Engineer, Cornwall Canal..... Commanded R.E. in Canada..... Was appointed Col.....	1833. 1833. 1833. 1833. 1833. 1818 1839. 1875-80. 19th Dec., 1833. 21st April, 1834. 1834.
Wright, Lieut. Col., I.R.	Fraser River improvements, British Columbia, report.....	1875-80.
Wright, G. B.....	Report on St. Lawrence Canals.....	19th Dec., 1833.
Wright, Capt., R.E.....	do land required for Chambly Canal..... Senior Capt., R.E., Montreal Division.....	21st April, 1834. 1834.
Yule, Capt. P., R.E....	Superintendent, construction and repairs of St. Lawrence Canals..... Report and estimate, St. Lawrence Canals..... Report on St. Lawrence Canals..... Report of reconnaissance ordered by Lord Aylmer to examine route to connect Quebec with the Atlantic Ocean by a railway through the State of Maine..... Plans, canal and lock proposed at Ste. Anne, south side River Ottawa, instead of old lock, built 1816, in Vaudreuil channel, between Ile Perrot and Vaudreuil, of wood..... New stone lock, north side of river, 190×45 feet, with 6 feet water on sills, built 1840-43. Enlarged stone lock, 200×45 , with 9 feet water on sills and a new channel with crib work and embankment on each side, in the river below the lock, commenced in 1873 and completed towards 1883.	1830. 30th May, 1832. 1833. Aug., 1835. 1835.

SUPERINTENDENTS EMPLOYED
ON THE
PRINCIPAL PUBLIC WORKS
OF
CANADA,
EXCLUSIVE OF PUBLIC BUILDINGS AND RAILWAYS.

1779 to 1891.

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SUPERINTENDENTS, &c.

SUPERINTENDENTS, &c., Employed on the Principal Public Works of Canada, exclusive of Public Buildings and Railways, 1779 to 1891.

Names.	Works.	Dates.
Adams, John.....	Asst. Superintendent, Lachine Canal.....	5th Sept., 1823.
Alchin, John.....	do Canal Locks, Lakes St. Louis and St. Francis	May, 1833.
Bailarge, Geo. Fred....	do Burlington Bay Canal.—Prior to.....	11th Oct., 1843.
	Superintending Engineer, various roads, bridges, harbours	
	and canals, Quebec, Ontario and Maritime Provinces..	1853-79.
	Superintending Engineer, River Trent Canals, slides, &c.,	
	and Rivers St. Maurice and Saguenay slides, booms, &c..	1863-75.
	Superintending Engineer, Ottawa, Richelieu and St. Lawrence Canals.....	1877-78.
	For intermediate dates on respective works—See	
	“Record of Engineers.”	
Barrett, John.....	Superintendent, Ste. Anne's Lock	April, 1849.
Beique, Joseph Flavien..	do Beauharnois Canal.....	26th March, 1874-91.
Belcher, Thomas Deaves.	Superintending Engineer, Trent River Works.....	July, 1873-84.
	Superannuated.....	1st July, 1885.
	Died.....	12th April, 1886.
Benoit, Pierre Basile....	Superintendent, Chambly Canal.....	1886-88.
Bennett, W.....	Superintending Engineer, Construction Esquimaux Graving	
	Dock	24th Nov., 1883.
Bernier, Capt. J. E.....	Superintendent, Lévis Graving Dock	1st April, 1887-90.
Billyard, W.....	Assistant Superintendent, Sarnia, Brantford and Chatham	
	and Amherstburgh roads.....	1843.
Biggar, W. F.....	Assistant Superintendent, Burlington Bay Canal.....	1872-74.
	do Port Dover harbour.....	1872.
Bissett, Alexander.....	Superintendent, Lachine Canal.....	1849 to Jan., 1868.
	Died	August, 1869.
Blaklock, F. W.....	Superintendent, Gosford road.....	1843.
Bodwell, E. V.....	do Welland Canal.....	1874 to 1st Jan., 1880.
	do Burlington Bay Canal.....	1875.
Booth, Thomas.....	do Beauharnois Canal.....	1850 to July, 1854.
Booth, Thomas D.....	do do	July, '54, to Feb., '57.
Bolton, Major R. E.....	do Rideau Canal.....	1839.
Bonacina, ————	do (pro tem) Chambly Canal.....	1853-54.
Borne, Michel.....	do Chambly Canal (Chambly Division).....	31st May, 1843-53.
Bouchard, Pascal.....	do Road Ste. Agnes de Malbaie to Baie des	
	Ha! Ha!, Saguenay	1856-58.
Boulanger, Damase.....	Superintendent, slides and booms, at foot Lake St. John,	
	and head of River Saguenay	1st May, 1860-81.
	Superannuated.....	19th May, 1881.
	Died	March, 1882.
Boulanger, Arthur....	Superintendent, slides, booms, dams, at foot Lake St. John,	
	and head of River Saguenay	19th May, 1881-91.
Brophy, John Byrne....	Superintendent, Ottawa River Works.....	1st April, 1879, to 1st
		April, 1880.
	Lockmaster, Carillon and Grenville Canals.....	12th June, 1872, to 1st
		April, 1879.
Brophy, G. Patrick.....	Assistant Superintendent, Ottawa River Works	6th July, 1873, to 22nd
		July, 1875.
	Superintendent, Ottawa River Works.....	22nd July, 1875, to 1st
		April 1879, 1st
		April, 1880-91.
Brunel, A.....	do Welland Canal.....	1871 to 1874.
Bruyères, Capt. R. E....	do Construction, Cascades Canal.....	Jan., 1804.
Burnett, Thomas.....	Superintending Engineer, Lachine Canal.....	1821-26.
	Died	1826.

SUPERINTENDENTS &c., Principal Works, &c., Canada,—Continued.

Names.	Works.	Dates.
Burnett, John	Superintendent of Works, Lachine Canal.....	1826.
By, Lt.-Col. John, R.E..	Superintending Engineer, Rideau Canal construction.....	1826-32.
Callahan, —.....	do Division, Welland Canal.....	1836.
Carmichael, Daniel.....	Superintendent, Lachine Canal.....	1844-46.
	Died.....	1846.
Chaloux, François.....	Superintendent, (<i>pro tem</i>) Beauharnois Canal.....	31st May to Aug. 1873
Chartier, P. Téléphore.....	do Chambly Canal.....	1854-63.
Chater, Lt.-Col., R.E.....	Superintending Engineer, Rideau Canal.....	Date not ascertained.
	Succeeded Capt. Chas. E. Ford, who succeeded Lt.-Col. Thompson as Superintending Engineers under Imperial Government, between.....	1832 and 1852.
Clarke, Isaac Winslow, Dep. Com. Gen.	Superintendent, Cascades, Split Rock and Côteau du Lac Canals, under Imperial Government.....	1809-1822.
	Died.....	7th July, 1822.
Cliff, John.....	Superintendent, Harbour Works, Montreal.....	1832-45.
Codère, Alfred.....	do St. Ours Lock and Dam. Appointed.....	1st Sept., 1888.
Coffin, Lt.-Col. W.....	General Agent Ordnance property, including the Rideau, Carillon, Chute à Blondeau, Cascades, Split Rock, Côteau du Lac Canals, &c. Appointed.....	Sept., 1856.
	Died.....	28th January, 1878.
	The last named works were maintained at expense of Provincial Government from 1st Oct., 1853. Their transfer from Imperial Government accepted by Order in Council, 25th January, 1856. Transfer ratified by Prov. Act, 19 Vic., cap. 45.....	
Conway, Michael.....	Engineering Staff, etc., Lachine Canal.....	19th June, 1856.
	Acting Superintendent " ".....	1844 to 1868.
	Superintendent " ".....	1868.
	Died.....	1st April 1869-90.
Cotton, James.....	Superintendent East and West York and Yonge street roads from Toronto; also roads Hamilton to Port Dover, Dundas, Brantford, &c.....	15th Oct., 1890.
	Toronto roads sold to United Counties of York and Peel by Order in Council.....	7th June, 1864, to 5th July, 1865.
Cull, James.....	Superintendent, (with P. Talbot) Sarnia, Brantford, Chatham and Amherstburgh roads.....	5th July, 1865.
		1843.
Daoust, Joseph Lumina.	Superintendent, Ste. Anne's Lock.....	18th Dec., 1878-91.
Dawson, Simon L.....	do St. Maurice slides, dams, booms, &c.....	1852-57.
	do Route, Lake Superior to Fort Garry.....	1857-71.
Devereux, Capt. James..	do Esquimalt graving dock, British Columbia. Previously in charge of Provincial Government Steamer "Sir James Douglas."	17th Sept., 1887-91.
Donaldson, John.....	Superintendent of Works, Welland Canal (under Commissioners).....	23rd February, 1833.
Donatti, L., Dep. Asst. Com. Gen.	Superintendent, Cascades, Split Rock Canals, &c.....	1822.
Drummond, —, R. E....	Superintending Engineer, first Suspension Bridge, Ottawa.	1826.
Dunlop, Mathew.....	Acting Superintendent, St. Peter's Canal.....	1869 to June, 1870.
Dunlop, —.....	Superintendent, Lachine Canal.....	1846-49.
	Died.....	1849.
DuVernet, Lt.-Col. Royal Staff Corps.....	General Superintendent, Construction Grenville Canal....	1819-29.
	See "Record of Engineers."	
Dwyer, W. O.....	Assistant Superintendent, Cascades Road.....	1843.
Ellis, William.....	Superintendent, Burlington Bay Canal.....	1st January, 1880-91.
	do Welland Canal.....	1st January, 1880-91.
Evatt, H. B.....	do Côteau du Lac Canal.....	1832 to May, 1833
Finlay, John.....	do Construction, Ordnance Canals.....	1823-29.
Fairbanks, L. P.....	do and proprietor Shub-nacadie Canal, (Chikabenakady) N.S.....	1855-89.

SUPERINTENDENTS, &c., Principal Works, &c., Canada—Continued.

Names.	Works.	Dates.
Farnsworth, S. H.	Superintendent, Assistant on repairs, &c., Welland Canal.	March, 1833.
Fleming, Peter.....	Superintending and Consulting Engineer, St. Ours and Chamblly Canals.....	1829-31.
	Superintending and Consulting Engineer, Williamsburgh and Cornwall Canals.....	1834.
	Superintending Engineer, Bridges between Montreal and Quebec.....	1843.
	See "Record of Engineers."	
Forbes, W. B., Deputy Com'ry-Gen'l.....	Superintendent, St. Lawrence Canals.—Old canals built by Imperial Government.....	1830.
Forbes, William Bilsbury	do Carillon and Grenville Canals.....	1st May, 1867, to May, 1889.
	Previously employed in other capacities.....	15th April, 1855.
	Died.....	29th May, 1889.
Ford, Capt. Chas. E., R.E.....	Superintendent of Works, Grenville Canal.....	1846.
	Superintending Engineer, Rideau Canal.....	
	(Succeeded Col. Thompson under Imperial Government subsequent to 1832.)	
Foreman, Thomas.....	Superintendent, Ste. Anne's Lock.....	1877.
	Previously Lockmaster, Grenville Canals, since.....	1st April, 1868.
Gerard, Arsène.....	Superintendent, Ste. Anne's Lock.....	1877—1st Dec., 1878.
Grant, Donald M., C.E.,	do nav. improvements, St. John River, N.B.....	1850-53.
Gibbs, Alex'r.....	Assistant Superintendent, Lachine Canal.....	1st June to 31st Oct., 1823.
Gisborne, F. N., M.E., F.R.S., Canada.....	Superintendent General, Government Telegraph and Signal Service.....	1st May, 1879-91.
	See "Record of Engineers."	
Gisborne, Hartley.....	Superintendent, Government Telegraph lines, North-West Territory.....	1st Oct., 1882-90.
Godfrey, Thomas....	Superintendent, Cornwall Canal.....	1843-49.
	do Beauharnois Canal.....	1849-50.
Gore, T. S.....	Superintending Engineer, Sarnia and Chatham Roads.....	1843.
Guérard, Jos.....	Superintendent, Bridges between Montreal and Quebec.....	1843.
Gzowski, Lt.-Col. C. S.	Superintending Engineer, Roads and Harbours, Western Ontario.....	1842-48.
	See "Record of Engineers."	
Hall, Francis Benjamin	Superintending Engineer, Burlington Bay Canal.....	1825-32.
	See "Record of Engineers."	
Harrison, Robert Newton	Superintendent, St. Ours Lock and Dam.....	6th August, 1851.
Harvey, Charles, R.E.	Superintending Engineer, Rideau Canal, prior to.....	1857.
	(Mr. Harvey was the last Superintendent of this canal under the Imperial Government.)	
	For transfer by Imperial to Provincial Government, see Lt.-Col. W. Coffin, General Agent Ordnance Property.	
Hatt, Augustus.....	Superintendent, St. Ours Lock and Dam.....	11th March, 1853-57.
	Died.....	28th Feb., 1858.
Hayne, Capt., R. S. Corps	Superintendent construction Ottawa River Canals.....	1833-34.
Heard, John.....	do works, Otonabee River.....	16th Nov., 1833.
Hindmarsh, J.....	do Lachine Canal.....	1842.
Kavanagh, Wallace Morgan	Superintendent St. Peter's Canal, Cape Breton, N.S.....	3rd June, 1870-91.
Keefer, Samuel H.....	Superintending Engineer, Construction Welland Canal.....	24th June, 1846.
	See "Record of Engineers." Died.....	7th Jan., 1890.
Keeler, T. P.....	Superintendent Murray Canal, O.C.....	Aug., 1889.
Kennedy, Edward.....	Superintendent Lachine Canal, appointed.....	8th Nov., 1890.
Kerr, William.....	Superintendent, Works, Burlington Bay Canal, and Secretary to Board of Commissioners, appointed.....	March, 1827.
Killaly, J. S.....	Superintending Engineer, Rideau Canal.....	1st Jan., 1857, to 6th April, 1858.
	See "Record of Engineers."	
Kildy, Daniel.....	Superintendent and Paymaster, Chamblly Canal.....	1843-47.
King, Capt. Wm., R.S.C.	Superintending Engineer, Grenville, Cascades, Split Rock, and Côteau du Lac Canals.....	1825-26.
Lewis, Richard.....	Superintendent bridges between Montreal and Quebec.....	1843.
Lander, Mr.....	Superintendent Montreal Harbour, prior to.....	1834.

SUPERINTENDENTS, &c., Principal Works, &c., Canada—Continued.

Names.	Works.	Dates.
Lajoie, Charles	Superintendent, St. Maurice Slides and Booms, &c.	7th Oct., 1878-91.
Larue, Lévis	do St. Ours Lock and Dam	24th April, 1858-88.
	Superannuated	1st Sept., 1888.
Laurencel, Pierre	Superintendent Beauharnois Canal	10th Feb., 1857, to 30th April, 1871.
Lawson, W.	Assistant Superintendent Sarnia, Brantford, Chatham and Amherstburgh roads	1843.
Lee, Andrew	Superintendent, Burlington Bay Canal on the	11th Oct., 1843.
Light, A.	Assistant Superintendent, Burlington Bay Canal, on the	11th Oct., 1843.
Long, Maj. André, Royal Staff Corps	Superintendent, Construction and repairs to Cascades, Split Rock and Côteau du Lac Canals	1817.
Lyons, James	Superintending Engineer, River Trent Works and Light- houses, River St. Lawrence	1843-55.
Macaulay, John	Commissioner, superintending expenditure Welland Canal.	13th Feb., 1833.
Macdonald, Alexander	Superintendent, East and West York and Yonge street Roads from Toronto; also, Roads, Hamilton to Port Dover, Dundee, Brantford, &c.	18th May, 1863-64.
	Toronto Roads sold to United Counties of York and Peel, by Order in Council	5th July, 1865.
Macdonald, Jos. Frobis- her	Superintending Engineer, Lachine and other canals.	1848-52.
	do Temiscouata Road	1853-56.
	Died, autumn.	1857.
	See "Record of Engineers."	
Macdonell, Duncan Allan	Superintendent, Beauharnois Canal	March, 1846 to 27th Aug., 1849.
	do Cornwall Canal	27th Aug., 1849 to 1st July, 1889.
	Resigned	1st July, 1889.
	Previously employed on Public Works	Oct., 1834 to March, 1846.
Macdonell, Alex. Green- field	Superintendent, Williamsburgh Canals	26th April, 1875-89.
	Died	27th January, 1889.
Mackay, —	Superintendent, Fort Garry and Lake of the Woods Roads	1872.
Mann, Capt. J. W., Royal Staff Corps	do Construction, Grenville Canal	1819.
	Report on Navigation of the St. Lawrence	25th Sept., 1818.
Mann, Col. Gother, R.E.	Superintendent-General, Report on Cascades, Cedars and Côteau du Lac Canals	24th Dec., 1800.
	See "Record of Engineers."	
March, S.	Superintendent, Bridges between Montreal and Quebec	1843.
Masse, Joseph A.	do Beauharnois Canal	1st May, 1871 to 31st May, 1873.
McCordock, W. J.	do Dredging, Maritime Provinces	1870-91.
McDouall, Robert	do Assistant, Lachine Canal	1821-23.
McGrath, Thomas	do Works, Newcastle District	Oct., 1843.
McIntyre, Capt. John	do of Lighthouses	1848.
McKay, Mr.	do Fort Garry and Lake of the Woods Road	1872.
McLaughlan, —	do Nav. Improvements, St. John River, N.B.	1863-56.
McNab, Alex.	Superintending Engineer, St. Peter's Canal, N.S.	July, 1865 to July, 1867.
McPherson, David	Dock Master or Manager, Halifax Graving Dock	Feb., 1889-91.
McRae, A. M. F.	Superintendent, Chambly Canal (at St. John)	15th April, 1842 to 18th June, 1843.
Merrill, Horace	do Ottawa Slides, Booms, &c.	20th Jan., 1849, 22nd July, 1875.
	do Construction, Grand Mère and Shawene- gan Slides, River St. Maurice	Sept., 1852.
	Superintendent Construction, new Carillon Slide and Dam	June, 1879-83.
	Died	22nd May, 1883.
Mills, J. B.	Superintending Engineer, Williamsburgh Canals	1843 to 15th June, 1847.
	See Farran Point, Rapide Plat, Point Iroquois and Galops	
Morin, Louis	Superintendent, Beauharnois Canal	1st Aug., 1873 to 1st April, 1874.
Nagle, Gerald J.	do Construction, Ottawa River Slides, &c.	1843-44.

SUPERINTENDENTS, &c., Principal Works, &c., Canada—Continued.

	Names.	Works.	Dates.
878-91. 1858-88. 1888. 1857, to ril, 1871.	Normand, J. B.	Boom-Master at Mouth of St. Maurice.....	1853-91.
	Ouimet, Louis	Acting Superintendent, St. Maurice Slides and Booms...	1875-78.
	Paquet, M.	Superintendent, Chambly Canal	1877-79.
	Page, John, sen	do Bridges between Montreal and Quebec	1843.
		Superintending Engineer, St. Lawrence Canals.....	1852-53.
		See "Record of Engineers."	
1843. 1843.	Parent, Etienne Henri ..	Superintending Engineer, Carillon and Grenville Canals...	1879-80.
		Lachine, Beauharnois, Chambly, St. Ours Lock and Dam ..	1880-91.
		See "Record of Engineers."	
	Perley, Henry F.	Superintending Engineer, Works, Mar. Prov.	1872-80.
		See "Record of Engineers."	
	Perry, George H.	Superintending Engineer, Culbute Canal.....	1873-87.
		Died. See "Record of Engineers."	1888.
	Phelan, Daniel.....	Superintendent Chambly Canal (at St. John) appointed...	18th June, 1843.
1833.	Préfontaine, Christopher.	Superintendent Chambly Canal	15th Oct., 1863-77.
	Ranney, George W.	do Trent Canals, Slides, Booms, &c.....	4th May, 1855, July, 1873.
		See "Record of Engineers."	
1863-64.	Redpath, Peter	Superintendent of Works, Chambly Canal (at St. John) ..	Prior to 1844.
	Reid, John.....	do Williamsburgh Canals, appointed.....	18th Oct., 1889.
		Died	13th May, 1890.
1865.	Reid, John D.	Acting Superintendent.....	1st May, 1890.
	Rigney, James.....	Superintendent Cascades Road	1843.
	Robinson, William B.	do (Commissioner) Welland Canal	13th February, 1833.
		do Welland Canal	1st October, 1837.
		do Lachine do	1841.
		do Beauharnois Canal	1845 to March, 1846.
		do Trent River Works	1st July, 1884-91.
		See "Record of Engineers."	
46 to 27th 49. 1849 to 1889 1889. to March, 1875-89, ary, 1889.	Rogers, Richard B.	Superintendent various Harbour works and Roads, Province of Quebec.....	29th May, 1856-91.
		See "Record of Engineers."	
	Rose, Isaac.....	Superintendent Williamsburgh Canals	4th November, 1853, to 26th April, 1875.
	Ross, A. P.	Superintendent Cornwall Canal	1st July, 1889-91.
	Rubidge, Thomas S.	Superintending Engineer, Murray Canal.....	1881-86.
		See "Record of Engineers."	
1818.	Russell, Alex. J.	Superintendent, Construction Gaspé roads, Baie des Chaleurs	1841, June, 1846.
1800.		Transferred to Crown Timber Office.....	June, 1846, to Octo- ber, 1882.
		Previously in Commissariat Dept., Imperial Govt ..	1830-41.
		Died	12th Nov., 1887.
871 to 31st 73.	Shale, Absalom	Commissioner superintending expenditure Welland Canal ..	13th February, 1833.
	Sinms, A. H.	Assistant Superintendent, Baie des Chaleurs road	1843.
		Commissioner, Gaspé roads, &c	1846-48.
	Simpson, George.....	Superintendent, Grenville and Carillon Canals.....	18th Oct., 1889-91.
	Sippell, John G.	Superintending Engineer Canals, Province Quebec, except- ing River Ottawa Canals, until 1857.....	July, 1853-77.
		Superintending Engineer (Consulting), Canals, Prov. Quebec ..	22nd June, 1877-79.
		Died	26th September, 1879.
		See "Record of Engineers."	
5 to July, -91. 1, 1842 to ne, 1843. 1849, 22nd 75. -83. 1883. 5th June,	Slater, James Dyson ...	Superintending Engineer, Rideau Canal, &c.....	10th June, 1858, to October, 1872.
		Died	26th October, 1876.
		See "Record of Engineers."	
	Smith, D. C.	Superintendent Lighthouses above Montreal.....	21st June, 1855-80.
		Died	1st May, 1880.
	Stark, David	Superintending Engineer, Ottawa River Canals.....	1st May, 1880.
		do Trent River, new canals, &c.....	1888-90.
		See "Record of Engineers."	
	Stehelin, Captain, R. E.	Superintending Engineer, construction Grenville Canal ..	1819-33.
	Strong, W. O.	do do Kingston Graving	
		Do	
	Sutherland, Hugh	Superintendent Construction Fort Frances Canal Lock ..	1st Dec., 1888-91.
1873 to 1st 374.	Symmes, Henry R.	do St. Maurice slides, booms and other works ..	1875-78.
		Died	24th Feb., 1858-75.
			8th October, 1875.

SUPERINTENDENTS, &c., Principal Works, &c., Canada—*Concluded.*

Names.	Works.	Dates.
Talbot, F	Superintendent Sarnia, Brantford, Chatham and Amherst- burgh Roads	1843.
Thompson, W. H	Superintendent (Asst.) construction Fort Frances Lock	1878-78.
Thompson, John	do Carillon and Grenville Canals	15th July, 1859, to 30th April, 1867.
Thompson, Lt.-Col., R. E.	Superintending Engineer, Rideau Canal Succeeded Major Bolton, under Imperial Govt	Date not ascertained.
Twiss, Captain, R. E.	Superintending Engineer, Cascades, Split Rock, Trou du Moulin and Côteau du Lac Canals	1779 to 1783.
Ulrich, Corneille	Superintendent Chambly Canal	1st May, 1879-85.
Vanderburgh, John	do Locks, &c., Welland Canal	1833.
Vaughan, Captain A. H.	do Lake St. Peter straight channel dredging	1844-46.
	do Belle Isle lighthouse	1855-61.
	do Died at Quebec	9th December, 1869.
Walton, D. S.	Superintendent Engineer, Ottawa River works	October, 1843.
Wilson, Thomas	do of works, Trent River and Newcastle Dis- tricts	1844.
Wise, Frederick Ashford Milbank	Superintending Engineer, Rideau Canal	1st Oct., 1872-91.
Woodly, J	Assistant Superintendent, Baie des Chaleurs road	1843.
Woodruff, Samuel D.	Superintendent Welland Canal	1839-71.
	do Burlington Bay Canal	1869.
Yule, Capt. Patrick, R. E.	do Construction and repairs of St. Lawrence Canals, St. Anne's Lock, &c. <i>See "Record of Engineers."</i>	1830-35.

cluded.

Dates.

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6-78.
h. July, 1860, to
0th April, 1867.
ate not ascertained.

9 to 1789.
May, 1879-85.
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December, 1869.
ober, 1843.

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Oct., 1872-91.
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PUBLIC WORKS AND THEIR ENGINEERS, &c.

CANADA.

CANALS.—GRAVING DOCKS.

1779 TO 1891.

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PUBLIC WORKS AND THEIR ENGINEERS, ETC.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891.

Works.	Engineers, &c.	Services.	Dates.
BAIE VERTE CANAL (Projected).			
(Marine railway, instead of canal being built, from Bay of Fundy to Baie Verte) 1887-91.			
For navigation, 4 feet.	Minnitte, Robt., P.L.S..	Survey and report to New Brunswick Govt. on Au Lac and Tidnish routes..	Oct., 1822.
Locks required, 6.	Hall, Francis, Benjamin, C.E.	Report to Govt. New Brunswick on Minnitte's survey, and on routes Shediac to Peticodiac Bend, and Shediac to Dorchester.....	Oct., 1825.
Length of locks, 105½ ft.	Telford, Thomas, C.E.,	Founder of the Institute of Civil Engineers, G.B., incorporated 3rd June, 1828. Report to Govt. New Brunswick, with plans, recommendations, &c.....	1826.
Breadth of locks, 20½ ft.			
Water on sills, 8 ft.			
Recommended locks.	Crawley, Capt. H. O., R.E.....	Survey and report, for Govt. of New Brunswick.....	Jan. 19, 1843
Length, 150 ft.			
Breadth, 40 feet.			
Water on sills, 13 feet.	do do ..	Report to Govt. of New Brunswick on Messrs. Hall and Telford's schemes....	Mar. 14 1845 Mar. 19, 1843
Recommends locks.	Page, John, Chief Engineer Public Works....	Report on previous surveys and recommends another survey.....	May 7, 1869.
Length, 21½ miles.	Bailairgé, George Fred., Asst. Chief Engineer Public Works.....	Survey and report with plans and estimates to J. Page, Chief Eng. P.W....	Apr. 8, 1872.
Locks, Bay of Fundy, 4.	Guerin, Thomas, C.E....	Assistant to G. F. Bailairgé.....	1870-73.
Locks, Baie Verte, 2.	Steckel, René, C.E.....	do do	1870-73.
Length of locks, 270 ft.	Monro, Alex., P.L.S....	do do	1870-73.
Breadth of locks, 40 ft.	Rosa, Joseph, C.E.....	do do	1870-73.
Water on sills, 15 ft.	Gzowski, Col. C. S., and Keefer, Saml. H., C.E.	Joint report on G. F. Bailairgé's report Recommend certain modifications.....	May 2, 1872.
	Stark, David, C.E.....	Report on supplementary survey.....	Dec. 27, 1872
Half-tide canal.	Gzowski, Col. C. S., and Keefer, Saml., H., C.E.	Joint report recommending a half-tide canal through Laplanche Valley.....	Feb. 18, 1873
Cost estimated at \$5,317,000.			
Half-tide, also whole-tide canal.	Bailairgé, G. F., Asst. Eng. Public Works....	Estimates, &c., for half-tide and whole-tide canals, &c.....	Apr. 12, 1873

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, &c.	Services.	Dates.
<i>Baie Verte Canal</i> —Con.			
Estimated cost of located line, Missiguash Valley.	Baillairgé, G. F., Asst. Eng. Public Works....	Report on location survey through Missiguash Valley.....	Nov. 17, 1873
Half-tide canal, \$7,700,000			
Three-quarters-tide..... 8,100,000	Page, John, Chief Eng. Public Works.....	Report on Messrs. Keefer and Baillairgé's projects; approves latter.....	Dec. 10, 1873
Full tide..... 8,500,000			

BEAUHARNOIS CANAL (River St. Lawrence.)

Commenced, 1842.	Stevenson, Alexander....	Survey with A. Trudeau.....	1830-31.
Completed, 1845.	Trudeau, André	Assistant of Alex. Stevenson on survey..	1830-31.
Opens communication from Lake St. Francis to Lake St. Louis, avoiding rapids at "The Cascades," "The Cèdars," and "The Côteau," River St. Lawrence.	Mills, J. B.	Surveys and reports. North Shore Route.	1833.
	do	Chief Engineer. South Shore Route....	1843.
	Thompson, David.	Assisted Mr. Mills, survey	1833.
	Stevenson, Alexander....	Report on canal project. South Shore..	1835.
Length, 11½ miles.	Baird, N. H.	do. do do ..	1835.
No. of locks, 9.	Thompson, Henry G....	Survey of part of the River St. Lawrence above Lake St. Louis. Sept. and Dec.	1836-42.
Length do 26½ feet.			
Breadth do 45 do	Larue, Adolphe	Survey and Map of Lake St. Louis	1836.
Water on sills, 9 do	Phillipotts, Lt.-Col., R.E.	Report to Imp. Gov.; on Tuland Nav....	Dec. 1839.
Rise or lockage, 82½ feet.			Aug. 1840.
First vessel to pass through was the "Albion," in Oct., 1845.	Killaly, Hamilton H....	Chairman, Board of Works.....	1841-46.
This Canal is to be enlarged or a new one built, with a navigable depth of 14 feet of water on sills, on N. shore.	Keefer, Samuel.....	Chief Engineer, Public Works	1841-52.
	Tait, Charles Maitland..	Report, &c., on survey Beauh. Canal....	1842-43.
	Casey, Wm. R.	do on Cedars Canal Ronte.....	1842.
Expenditure by Provincial Government up to 30th June, 1867, \$1,611,424.11.	Keefer, Samuel	Report approving Mr. Stevenson's route—adopted.....	17th Feb., '42
Expenditure by Dominion Government from 1st July, 1867, to 30th June, 1889, \$124,290.47.	Shanly, Walter.....	Superintending Engineer. Construction..	1842-48.
	Kierkowski, A.	Engineering staff. do ..	1842-45.
	Cowley, J. G.	Assistant Sut. Engineer do ..	1843.
Total expenditure to 30th June, 1889, \$1,735,714.68.	Laroque, A. B.	Jun. Assistant Engineer de ..	1843.
	Guy, A.	Assistant Sub. Engineer do ..	1843.
	Stewart, James.....	Map of "Ice Shoves" at Montreal, also St. Ours' Lock and Beauharnois Canals	1843-45.
	Robinson, William B....	Superintendent of Canal.....	1845 to Mar., 1846.
	Macdonnel, Duncan Allan	do do	Mar., '46, to 27th Aug., 1849.

-Continued.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Dates.	Works.	Engineers, &c.	Services.	Dates.
	<i>Beauharnois Canal—Con.</i>			
Nov. 17, 1873		Stewart, James.....	Survey new works, Beauharnois, and rapids of River St. Lawrence, between Lakes St. Louis and St. Francis; also, Government property and drowned lands	1847-54. 1849-50.
Dec. 10, 1873		Godfrey, Thomas	Superintendent.....	1851-64. 22nd June, 1877-79.
		Baillairgé, Geo. Fred ..	Canal Survey and reports on claims, &c., Superintending Engineer.....	1850 to July, 1854. 1850-51.
		Booth, Thomas.....	Superintendent.....	July, 1853-77
		Legge, Charles.....	Engineering staff.....	July, 1854, to Feb., 1857.
		Sippell, John G.....	Superintending Engineer ..	1853-90.
1830-31.		Booth, Thomas D.....	Superintendent.....	10th Feb., '57, to 30th Apr., 1871.
1830-31.		Page, John, sen.....	Chief Engineer.....	1st May, '71, to 31st May, 1873.
1833.		Laurencel, Pierre.....	Superintendent.....	1872-76.
1843.		Masse, Joseph A.....	Superintendent.....	1872.
1833.		Crawford, Wm.....	Surveys projected enlargement.....	31st May to 6th Aug. '73
1835.		Thompson, Wm. G. McNeil	Charge of survey, Lake St. Louis.....	Aug., '73, to Apr., 1874.
1836-42.		Chaloux, François.....	Superintendent (<i>pro tem</i>).....	26th March, 1874-91.
1836.		Morin, Louis.....	do	1st May, 1875 to 1887.
Dec. 1839. Aug. 1840. 1841-46.		Béique, Joseph Flavien..	do	12th May, 1880-91.
1841-52.		Harrington, Thos. W....	Assistant Superintending Engineer	1883-85.
1842-43.		Parent, E. H.....	Superintending Engineer.....	1884-86.
1842.		Sullivan, J. H.....	Resident Engineer, deepening River St. Louis and Feeder.....	1889-90.
17th Feb., '42		Doré, J. E.....	Engineering Staff	
1842-48.		Monro, Thomas.....	Examination and report, projected enlargement and North Shore Route.....	

NEWCASTLE DISTRICT OR RIVER TRENT CANALS.

BOBCAYGEON LOCK, &c.

1843.	Part of Trent River Navigation designed to connect Bay of Quinte, Lake Ontario, with Lake Huron.*	John G. Bethune.....	Commissioners appointed to superintend Newcastle District works on the River Trent and its Tributaries.	1833.
1843.		Robert Brown.....		
1843-4-5.		John Hall.....		
1845 to Mar., 1846. Mar., '46, to 27th Aug., 1849.		Thomas Reed.....		
		A. McDonnell.....	Report, surveys, &c.....	1833.
		Baird, N. H.....	Superintending Engineer.....	1833-43.
		Rubidge, F. P.....	Compiled map, Trent River, &c.....	1836.

* Distance direct, 112 miles; *via* proposed route, 235 miles; Lockage rise, 589½ ft., and fall, 243½ ft.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, &c.	Services.	Dates.
<i>Bobcaygeon Lock—Con.</i>			
Commenced, 1833.	Killaly, Hon. H. H.	Report on works prior to.....	1843.
Completed, 1835.	Keefer, Samuel H.	Chief Engineer.....	1841-52.
Contractors, Dumble and Hoar.	Lyons, James.	Superintending Eng., R. Trent Wks., etc.	1843-55.
Contract dated 25th July, 1833.	Rigney, James.	Assistant Engineer do do ..	1843-49.
Dimensions of wooden locks, 128 x 28 x 10 feet.	Page, John, sen.	Chief Engineer, Canals, etc.....	1853-90.
Replaced by stone, 1857.	Perley, H. F.	do Pub. Works.....	1879-91.
	Wilson, Thomas.	Superintendent works, Newcastle District and Trent River.....	1844.
Length, 134 feet.			
Breadth, 33 do	Ranney, G. W.	Superintending Engineer	4th May, '55, to July, '73
Depth of water, 5 feet.			
Expenditure, Trent River Navigation, prior to 1st July, 1867, \$309,371.31.	Baillairgé, Geo. Fred....	Reports, Estimates, &c., R. Trent Works.	1863-74.
From 1st July, 1867, to 30th June, 1889, \$751,238.48.	do	Deputy Minister, Public Works.....	1879-91.
Total expenditure to 30th June, 1889, \$1,060,609.79.	Belcher, Thomas Deaves.	Superintending Engineer	1873-84.
	Rogers, Richard B	Assistant do	1878-81.
	do	do Trent Valley survey	1882-83.
	do	Superintending Engineer	1st July, 1884-91.
	Trudeau, Toussaint.....	Deputy Minister, Canals, etc.....	1864-90.

BUCKHORN CANAL (River Trent).

	Baird, N. H.	Report on River Trent navigation project.....	1835-36.
Overcomes rapids between Deer Bay and Buckhorn Lakes. Part of Trent River Navigation, Bay of Quinté to Lake Huron.	Belcher, Thomas Deaves.	Superintending Engineer, Trent River works.....	July, 1873-84
Commenced, 1882.	Page, John, sen.	Chief Engineer.....	1881-90.
Completed, 3rd May, 1888	Rubidge, Thos. S.	Superintending Engineer.....	1881-86.
	Aylmer, J. A.	Resident Engineer.....	June, 1882-88
	Clark, C.	Engineering staff.....	1882-86.
Length, about $\frac{1}{2}$ mile.			
No. of locks, 1.	Weller, J. L.	do	1882-88.
Length of locks, 134 ft.			
Breadth do 33 ft.	Belcher, A. J.	do	1882-88.
Water on sills, 5 ft.			
Contract for construction signed 27th Sept., 1882.	Greenwood, H.	do	1883-87.
George Goodwin, contractor.	Stark, David.	Superintending completion new works...	1887-88.
See cost; Bobcaygeon Canal.			

BURLEIGH LOCK AND DAMS (Trent River).

	Belcher, Thos. Deaves...	Superintending Engineer, Trent River works.....	1873-84.
Part of projected Trent River navigation, to connect Bay of Quinté, Lake Ontario, with Lake Huron.	Page, John, sen.	Chief Engineer.....	1881-89.
	Rubidge, Thos. S.	Superintending Engineer	1881-86.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891.—Continued.

Dates.	Works.	Engineers, &c.	Services.	Dates.
	<i>Burleigh Lock, &c—Con.</i>			
43.	Commenced, 1882.	Clarke, C.	Engineering Staff.	1882-86.
41-52.	Completed, 3rd May, '88.	Weller, J. L.	do	1882-88.
43-55.	Length of canal, 2½ miles.	Belcher, A. J.	do	1882-88.
43-49.	No. of locks, 3.	Greenwood, H.	do	1883-87.
53-90.	Dimensions, 134 x 33 x 5 feet.			
79-91.	Lift, two locks of 14 ft. and one of 6 feet.	Stark, I.	Superintending completion new works. .	1887-88.
44.	See cost; Bobcaygeon Canal.			

BURLINGTON BAY CANAL (Lake Ontario to Burlington Bay.) (St. Lawrence Canals.)

Act authorising construction passed 19th March, 1823.	Clark, Hon. Thomas			
	Crooks, James.			
	Overfield, Manuel.	Commissioners for superintending work.	1823.	
	Chisholm, William.			
	Wilson, John.			
Commenced, 1825.	Strowbridge, G.			
Opened, 1830.	Hayes, John W.	Contractors—Contract signed	June, 1824.	
Completed, 1832.	McKeen, John.			
Length of canal, ½ mile.	Hall, Francis Benjamin. .	Superintending construction	1825-32.	
Has no locks.	Barrett, Alfred.	Report.	1826.	
Breadth, 103 feet.	Moore, Robert, Master Mariner	Survey, report, &c.	30 Mar., '27.	
Depth of water, 11 feet.	McTaggart, John, R.E. .			
James Russell, original contractor, abandoned work.	Kerr, Wm. J., C.E.	Examined works	1824-25-26-27	
Expenditure on works previous to 10th Feb., 1841, \$124,356.08; from 1841 to 1st July, 1847, \$308,328.32.	do	Secretary Board of Commissioners.	27 Feb., 1828.	
Total to 1st July, 1867, \$432,684.40.	do	Superintendent of works.	1829.	
Total to 1st July, 1889, \$489,523.60.				
Gives access to port of Hamilton and Town of Dundas, <i>vid</i> Desjardins Canal.	Harris, John, Surveyor and Master Royal Navy	Report, survey and estimate and Sup.	1825-27.	
	Lee, Andrew.	Superintendent of works. on the	11th Oct., '43.	
	Alchin, John.	Assistant do	do	
	Gzowski, Col. C. S.	Engineer in charge—Report.	16th Feb. '48.	
	<i>Woodbury, S. D.</i>	<i>Superintendent</i>	<i>1869</i>	
	Biggar, W. F.	Superintendent.	1872-74.	
	Bodwell, E. V.	do	1875.	
	Page, John.	Chief Engineer of Public Works.	15 Mar., 1864 to 1879.	
	do	do Canals	1879-90.	
	Ellis, William.	Superintendent, appointed.	1 Jan., 1880-91.	

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, &c.	Services.	Dates.
CARILLON CANAL (River Ottawa.)			
Overcomes "Carillon Rapids," Ottawa River.	Royal Staff Corps Imp.	Designed and constructed by	1819-33.
Designed, 1819.	DuVernet, Lieut.-Col.	General Superintending Engineer	1819-29.
Commenced, 1826.	Henry	Report to Imperial Government	26 Dec. 1827
Completed, 1833.	do		
	McKay, Wm. and Crichton, Alex.	Contractors; contract dated	17th Jan., '32
Length of canal, 2½ miles	Hall, Major	Engineering staff	1832.
Locks rising, 2.			
do falling, 1.	Hayne, Capt., R.S. Corps	Supt. Construction Ottawa River Canals.	1833-34.
Length of locks, 126½ ft.	Baird, N. H.	Reports on works for contractors	Jan., 1833,
Breadth do 32½ ft.			13th July '33
Lockage, 34½, viz., 21½ ft. upwards and 13 ft. downwards.	Nicolls, Gustavus, Col.	Special Report	5th May, '34
Water on sills, 6 ft.	Page, John, sen.	Chief Engineer	1857-1890.
Enlargement—	Sippell, John G.	Superintending Engineer	1857-1877.
Commenced, 1871.	do	Superintending Engineer, Enlargement.	1870-77.
Completed, 27th May, '82	do	Consulting Engineer	1877-79.
Length of canal, ¾ mile.		Died	26 Sept., '79.
No. of locks, 2.	Coffin, Lieut.-Col. W.	General Agent, Ordnance Property	Sept., 1856.
Length do 200 ft.	Thompson, John	Superintendent	15 July '59 to
Breadth do 45 ft.		(Died, 30th April, 1867) ..	30 Apr., '67.
Water on sills, 9 ft.	Forbes, William Bilsbury	do	1st May, '67,
Exp. prior to 1 July, 1867,			May, 1889.
Carillon and Grenville Canals, \$63,053.64.†	Harrington, Thomas W.	Engineering Staff	19 July, 1870
Exp. from 1st July, 1867,	Bell, Andrew	Resident Engineer	June '70, to
to 30th June, 1889,			Nov., '85.
\$3,977,920.07.	Thompson, E. W.	Assistant Engineer, new locks and dam.	July, 1872-78
Total cost to 30th June, 1889, \$4,040,973.71.	Thompson, H. B.	do	1878-85.
The Str. "St. Andrew" was the first vessel that passed through this canal.	Baillairgé, Geo. Fred.	Superintending Engineer	22 June, '77-79.
Ordnance canals were maintained at the expense of the Prov. Govt. since 1st Oct., 1853; their transfer from the Imp. Govt. was accepted by Order in Council, 25th Jan., 1856. Transfer ratified by Prov. Act, 19 Vic., cap. 45, 19th June, 1856.	Merrill, Horace	Superintending Engineer, Carillon Dam.	June, '79-83.
Placed under D.P.W., by O.C., 3rd March, 1857.	Parent, E. H.	Superintending Engineer	4 Feb., '79 to
	Desbarats, G. J.	Engineering Staff, canal slide and dam ..	1st May, '80
	Stark, David	Superintending Engineer	Aug., 1879 ..
	Marceau, Ernest	Assistant Superintending Engineer	1 May, '80-90
	George Simpson	Superintendent—Appointed, O.C.	May, '80-91.
			18 Oct., 1889

CASCADES CANAL (River St. Lawrence.)

Overcomes the "Cascade Rapids," on the River St. Lawrence.	Twiss, Capt., R.E.	Superintending Engineer	1779 to 1783.
Designed by Gov. Haldimand.	Mann, Col. Gother, R.E.	Report on Works to Imp. Govt., recommending enlargement	24 Dec., 1800

† Expenditure by Imp. Gov. on Carillon, Châte à Blondeau and Grenville Canals, not ascertained, records having been destroyed by fire in Montreal, in 1852.

Continued.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Dates.	Works.	Engineers, &c.	Services.	Dates.
	<i>Cascades Canal—Con.</i>			
19-33.	Length of 1st canal, 400 ft.	Clarke, Isaac Winslow, Dep. Commissary Gen.	Superintending Engineer	1809-22.
19-29. Dec. 1827	Commenced and completed between 1779 and 1783.	Bruyères, Capt., R. E. . . .	{ Superintendent construction Report to Imp. Govt. on progress of new canal at Cascades	Jan., 1804. 16 Jan., 1805
ch Jan., '32	Breadth, between 6 and 7 feet.	By, Lt.-Col., R. E.	Report on works	24 Apr., 1805
32.	Water from 2 to 2½ ft.	Long, Major Andrew, R. E.	Superintendent Enlargement and Repairs	1817.
33-34.	Second or new Canal completed, 1804.	Donatti, L., Dep. Asst. Commissary General	Superintendent	July, 1820.
n., 1833, th July '33 n May, '34.	Length of canal, ½ mile. No. of locks, 3. Rise or lockage, 13½ ft. Length of locks, 120 ft. Breadth about 9½ ft. Depth of water (lowest) 3 feet.	King, Capt. Wm., R. E. . . .	Superintending Engineer	1826.
57-1890.	Enlargement of New Canal, completed, 1817.	Forbes, W. B., Dep. Com. Gen.	Superintendent St. Lawrence Canals	1830.
57 1877.	Breadth of locks, 12 ft.	Yule, Capt. Patrick, R. E.	Superintendent Construction and Repairs, St. Lawrence Canals	1830-35.
70-77.	Water on sills (lowest) 3½ feet.	Adams, John	Report on works	10 Sept., '34
77-79. Sept., '79. pt., 1856.	The construction of the Beauharnois Canal rendered this work unnecessary for navigation of St. Lawrence. See Col. Gother Mann, "Record of Engineers."	Coffin, Lieut.-Col. Baillairgé, Geo. Fred. . . .	General Agent, Ordnance property Survey and Plans of Ordnance Canals along the River St. Lawrence, with estimates of water power	Sept., 1856-78. 1857.

CAUGHNAWAGA CANAL (River St. Lawrence and Lake Champlain.)

Projected, to connect Lake Champlain with River St. Lawrence, near Montreal.	Mills, J. B.	Projected canal	1847-48.
Mr. Mills' project.	Tracy, B. H.	Survey projected route, Lake St. Louis to Lake Champlain	1854.
Length of Canal (including Chambly 8½) would be 32½ miles.	Jervis, J. B.	Four routes surveyed under his direction.	1854-55.
Locks, 200 x 45 x 9 ft.	Gamble, S.	Report on projected canal	1855-56.
Estimated cost, \$1,814,400.	Swift, W. H.	Consulting Engineer, recommends Mills' Route	1855.
(See General Report Pub. Works, '67.)	Jervis, J. B.	Report on projected work do	13 Feb., 1855.
	Kingsford, Wm.	Report, in connection with Champlain Can.	1871.

CEDARS CANAL (Projected). (River St. Lawrence, North Shore.)

Mr. G. F. Baillairgé's estimated cost of Canal—"Gully Line," \$3,650,000, for 14 ft. draught of water.	Mills, J. B.	Projected canal	1833.
Inland Line, \$4,136,589, for 14 ft. draught of water.		(Explorations, Surveys, &c., for the projected canal between Lake St. Louis and St. Francis, were made by Messrs. Stevenson, Trudeau, Thompson, Larue, Casey, between 1833 and 1842.)	
Length—Gully Line, 13½ miles.	Casey, Wm. R.	Plan, profile and estimate	1842.
Length—Inland Line, 14-20 miles.	Page, John, Sen.	Chief Engineer Public Works	1853-90.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, &c.	Services.	Dates.
<i>Cedars Canal—Con.</i>			
Dimensions of proposed locks, 270 x 45 x 14 ft.	Baillairgé, Geo. Fred..	{ Assistant Chief Engineer Public Works Report on projected work from survey by F. C. Farjana	1872-73.
See Report G. F. Baillairgé, Assistant Chief Engineer Pub. Works, 24th August, 75.	do do	Plans, profiles and estimates ..	17 Sept., 1874
(General Report Public Works, Canada, 1867-1882, page 835.)	do do	Estimates for a 14-foot navigation	24 Aug., 1875
	Farjana, F. C.	Survey of Projected Cedars Canal	6 Nov., 1872, 12 April, 1873.
	Rosa, Joseph	Assistant on survey do	1872-75.
	Boulay, Phileas	do do do	1872-76.
	Lantier, E.	(Died 16th January, 1890.) Engineering staff, survey	1872-73.
	Steckel, L. J. R.	Chief Assistant to Mr. Baillairgé	1874-75.
	Monro, Thomas	Examination, report and Location Survey	1889-90.

CHAMBLY CANAL. (River Richelieu.)

On Richelieu River, overcomes rapids between Chambly and St. John, and opens communication between the St. Lawrence and Hudson rivers, <i>vid</i> Lake Champlain, Whitehall and New York and Champlain Canals.	Deane, Silas	Observations, suggestions, &c., to Lord Dorchester <i>re</i> Canal—Lake Champlain to St. Lawrence	25 Oct., 1785
	do	Observations, &c., to Lord Sydney <i>re</i> Canal—Lake Champlain to St. Lawrence	26 Mar., 1787
	Lymburner, Adam	Proposed construction to Imperial Govt.	1791.
Commenced, Oct., 1831. Suspended, 1835. Resumed, 1840. Opened, 17th Nov., 1843.	Allen, Ira	Of Vermont, recommended construction to Duke of Portland	19 Mar., 1796
		(See Mr. Douglas Brymner, Archivist's Report.)	1889.
Length of Canal, 12 miles No. of locks, 9.	Fleming, Peter	Survey, plans and estimates for Commissioners	1830.
Length of locks, 118 to 125 ft.	Hopkins, W. R.	Resident Engineer	1830-34.
Breadth of locks, 22½ to 24 ft.	Hanlon, —	Consulting do	1830-31.
Rise or lockage, 74 ft.	Melhuish, Capt., R.E.	do do	1831.
Water on sills, 7 ft.	Keefer, George	Superintending Engineer	1844-47.
Expenditure by Provincial Government prior to 1st July, 1867, \$634,711.76. Dominion Government, from 1st July, 1867, to 30th June, 1889, \$276,061.97. Total expenditure to 30th June, 1889, \$910,773.73.	Casey, W. R.	Assistant do	1834.
	McRae, A. M. F.	Superintendent at St. John	18 Apr., '42 to 18 June, '43
	Walton, D. S.	Engineering staff, enlargement	1843-49.
	Phelan, Daniel	Superintendent (at St. John) appointed ..	18 June, 1843.
Commissioners to superintend construction, appointed 1829: Samuel Hatt, W. Macrae, G. Marchand, R. Boileau and Timothée Fraucœur.	Robinson, Arthur G.	Assistant Engineer	1843-48.
	Blanchet, —	do	1843-49.
	Redpath, Peter	Superintendent of Works (at St. John) ..	Prior to 1844
	Baillairgé, Geo. Fred.	Superintending Engineer	1877-79.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Dates.	Works.	Engineers, &c.	Services.	Dates.
	<i>Chambly Canal—Con.</i>			
		Baillairgé, Geo. Fred....	Surveys of Canal and drowned lands ...	1849-50.
		Kildy, Daniel.....	Superintendent and Paymaster.....	1843-47.
		Borne, Michael.....	Superintendent.....	31 May, 1843-'53.
		McDonald, J. Froisher.	Superintending Engineer.....	1848-52.
		Bonacina, —.....	Superintendent (<i>pro tem</i>).....	1853-54.
		Sippell, John G.....	Superintending Engineer.....	1853-77.
		Chartier, P. Télesphore..	Superintendent.....	1854-63.
		Page, John, Sen.....	Chief Engineer.....	1853-90.
		Préfontaine, Christophe.	Superintendent.....	15 Oct., 1863-'77.
		Harrington, Thos. W...	Assistant Engineer.....	1 Oct., 1870-'75.
		do do	do Superintending Engineer.....	1 May, 1875-'87.
		Ouimet, Louis.....	Superintendent.....	1877-79.
		Ulric, Corneille.....	Superintendent.....	1 May, 1879-'85.
		Parent, E. H.....	Superintending Engineer.....	12 May, 1880-'91.
		Papineau, L. G.....	Engineering staff.....	1881-83.
		Benoit, Pierre Basile....	Superintendent.....	1886-88.

CHATS CANAL (Upper Ottawa).

Designed to avoid the "Rapide des Chats," and as a link in navigation of Ottawa River from Montreal to Lake Huron.	Gallwey, W. B.....	Preliminary survey, Lake des Chats Canal.....	1852-54.
Commenced, August, 1854. Work suspended 15th November, 1856.	Perry, Capt. George H..	Survey, &c.....	1853-58.
Dimensions of proposed locks, 190 x 45 x 7 ft. Total lockage, 49' 80 ft. Expenditure to 1856, \$482,950. 81.	Norman, Thomas E....	Engineering staff.....	1863.
	Page, John, sen.....	Chief Engineer.....	1853-90.
	do.....	Report.....	30th March, 1854.
	McDonald, A. P.....	Contractors, commenced work.....	Aug., 1854.
	Schram, F.....		

CHISHOLM'S RAPIDS, LOCK, &c. (Trent River).

Commenced, 1837. Completed, 1844.	Baird, N. H.....	Report on project.....	1833-36.
Length of canal, 3,060 ft. do lock, 133½ ft.	Rubidge, F. P.....	Compiled map Trent River.....	1836.
Breadth of do 32½ ft. Water on sills, 5 ft. No. of locks, 1.	Baird, N. H.....	Superintending Engineer.....	1837-41.
	Keefer, Samuel.....	Chief Engineer.....	1841-52.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, &c.	Services.	Dates.
<i>Chisholm's Rapids, Lock, &c.</i> —Continued.			
Part of "Trent River Navigation," to connect Bay of Quinté, Lake Ontario, with Lake Huron.	do	Special Report.....	1846.
Total lockage required : Rise, 589½ feet. Fall, 243½ do 832½ do	Killaly, Hon. H. H.	Report on works prior to	1843.
Distance direct, 112 miles do proposed line, 235 miles.	Lyons, James	Superintending Engineer	1843-55.
For cost, see "Bobcaygeon Canal."	Rigney, James	Assistant Engineer	1843-49.
	Page, John, sen	Chief Engineer	1853-90.
	Ranney, G. W.	Superintending Engineer	4th May, '55, to July, '73.
	Baillairgé, George Fred..	Assistant Chief Engineer	1877-79.
	Belcher, Thomas Deaves.	Superintending Engineer	1873-84.
	Rogers, Richard B.	Assistant do	1878-81.
	do	do do survey	1882-83.
	do	Superintending do	1st July, '84-91.

CHUTE A BLONDEAU CANAL (River Ottawa).

Constructed to avoid "Chute à Blondeau" Rapids.	Royal Staff Corps	Designed and constructed by	1819-33.
Designed, 1819.	Du Vernet, Lt.-Cl. Henry	General Superintending Engineer	1819-29.
Commenced, 1826.	do	Report to Imperial Government	26th Dec., 1827.
Completed, 1832.	Hayne, Capt., R.S. Corps	Supt. construction, Ottawa River Canals.	1833-34.
Length of canal, ½ mile.	Page, John, sen	Chief Engineer	1857-90.
No. of locks, 1.	Thompson, John	Superintendent	1859-67.
Length of locks, 130½ ft.	Sippell, John G.	Superintending Engineer	1857-77.
Breadth do 32½ ft.	Coffin, Lieut.-Col. W ...	General Agent, Ordnance property. ...	Sept., 1856.
Water on sills, 6 ft.	Sippell, John G.	Consulting Engineer	1877-79.
Rise or lockage, 3½ ft.	Forbes, W. B.	Superintendent	1867-89.
Placed under control Department Pub. Works, Canada, 3rd Mar., 1857.	Harrington, Thomas M.	Engineering staff	19th July, 1870.
Construction of Carillon Dam has obviated use of this canal. See General Report Pub. Works by G. F. B., 1867 to 1872, page 815.	Baillairgé, George F.	Superintending Engineer	22nd June, 1877-79.
The steamer "St. Andrew" was the first vessel that passed through the first canal.	arent, E. H.	Resident Engineer	4th Feb., '79.
	Stark, David	Superintending Engineer	1st May, '80-90.
	Marceau Ernest,	Assistant Engineer	May, 1880-89.

CORNWALL CANAL (River St. Lawrence.)

Enables vessels to avoid "Long Saut Rapids."	Gourlay, Robert	Views respecting proposed canal	1819.
Sir John Beverly Robinson cut first sod, 1834.	Clowes, Samuel	(Died August, 1863, in Edinburgh, Scot.) Report and estimate	1826.
Opened December, 1842.	Barrett, Alfred	Report, &c.	1830.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, &c.	Services.	Dates.
<i>Cornwall Canal—Con.</i>			
Completed 10th April, 1843.	Wright, Benjamin.....	Consulting Engineer.....	1833.
Length of canal, 11½ miles.	Mills, J. B.	Chief Engineer.....	1833-48.
No. of locks, 6.	Cole, Capt., R.E.	Consulting Engineer.....	1833.
Length of locks, 4 of 200 ft. and 2 of 270 ft.	Fleming, Peter	do	1834.
Breadth do 45 ft.	Geddes, —.....	do	1834.
Rise or lockage, 48 ft.	Keefe, George.....	Resident Engineer, Lower Division, first construction.....	1834-43.
Water on sills, 9 ft.	Killaly, John S.....	Engineering staff.....	1834-43.
The steamer "Highlander" was the first vessel that used the canal, in Nov., 1842.	Phillipotts, Lt. Col., R.E.	Engineer in charge of construction.....	1836.
This canal is being deepened to a navigable depth of 14 feet with locks of 270 x 45, since 1876.	Killaly, Hon. Hamilton H.	Chairman, Board of Works.....	20 Dec., 1841-46.
	McDonald, J. Frobisher.	Engineer, &c., Survey and Plan of Canal.	1842-43.
	Rigney, James.....	Superintending Engineer.....	11, Oct. 1843.
	Godfrey, Thomas	Superintendent	1843-49.
	Legge, Charles.....	Engineering staff.....	1846-54.
Expenditure prior to 1st July, '67, \$1,933,152.69.	McDonnell, Duncan Allan	Superintendent.....	27 Aug., '49.
Expenditure from 1st July, 1867, to 30th June, 1889, \$1,056,135.84.	Page, John, sen.....	Chief Engineer.....	1853-1890.
Total expenditure to 30th June, 1889, \$2,989,288.53.	Baillairgé, Geo. Fred....	Superintending construction of weirs, &c.	1856-70.
	Rubidge, Thos. S.....	Superintending Engineer, enlargement..	1876-91.
	Page, John, jun.....	Assistant Engineer.....	1880-85.
	Killaly, H. H., jun.....	Resident Engineer, enlargement, upper half.....	1 July, 1885-91.
	Rhéaume, L. N.....	Engineering staff, enlargement, upper half	1 July, 1885-91.
	Robertson, G. E.....	do do lower half.	1 July, 1885-91.
	Weller, J. L.....	do do do	Aug., 88-91.
	Ross, A. P.....	Superintendent.....	1 July, 1889-91.

COTEAU DU LAC CANAL (River St. Lawrence.)

To avoid "Côteau du Lac Rapids."	Royal Staff Corps, Imperial.....	Designed and constructed by.	
Length of canal, 900 ft.	Twiss, Capt., R.E.	Superintending Engineer.....	1779-83.
No. of locks, 2.	Mann, Col. Gother, R.E.	Report on works	24 Dec., 1800
Commenced and completed between 1779 and 1783.	By, Lt. Col., R.E.	do	24 Apl., 1805
Breadth of locks, 6 to 7 ft.	Bruyères, Capt., R.E. ...	Report on progress new canal at Cascades.	16 Jan., 1805
Depth of water, 2 to 2½ ft.	Clarke, Isaac Winslow, Dep. Com. General....	Superintending Engineer.....	1809-1822.
	Long, Major Andrew, R.E.	Construction and repairs	1817.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, &c.	Services.	Dates.
<i>Côteau de Lac Canal</i> —Continued.			
1st enlargement, 1804.	Donatti, L., Asst. Commissary General.....	Superintendent.....	July, 1820.
Length of locks, 120 ft.	King, Capt. William, R.E.....	Superintending Engineer.....	1826.
Breadth, about 9½ ft.			
Depth water on sills, 3 ft.			
2nd enlargement, 1817.	Forbes, W. B., Deputy Commissary General..	Superintendent, St. Lawrence Canals...	1830.
Length of locks, 120 ft.	Yule, Capt. Patrick, R.E.	Superintendent, construction and repairs, St. Lawrence Canals.....	1830-35.
Breadth do 12 ft.			
Water on sills (lowest), 3½ ft.	Evatt, H. B.....	Superintendent of Locks.....	1832.
This canal has not been used for purposes of navigation, since the Beauharnois Canal was constructed. <i>Vide Col. Gother Mann, "Record of Engineers."</i>	Brandson, Mr.....	Contractor.....	1832.
	Adams, John.....	Superintendent of Locks.....	15 Nov., 1853
	Page, John, sen.....	Chief Engineer.....	1853-90.
	Coffin, Lt. Col. W.....	General Agent, Ordnance property.....	Sept., 1866-78.
	Baillairgé, Geo. Fred....	Survey and plans of Ordnance canals, along the River St. Lawrence with estimates of works to utilize water power at each.....	1867.

CROOK'S RAPIDS, NOW HASTINGS (Trent River.)

Lock, &c.	Baird, N. H.....	Report of project.....	Nov., 1833.
A part of the Trent River navigation, designed to connect Bay of Quinté, Lake Ontario, with Lake Huron. Distance direct, 112 miles; <i>via</i> projected route, 236 miles.	do.....	do.....	1835-36.
	do.....	Superintending Engineer.....	1837-41.
	Rubidge, F. R.....	Compiled map of Trent River.....	1836.
Lockage rise, 589½ feet.	Killaly, Hon. H. H....	Report, prior to.....	1843.
Fall, 243½ do	Keefer, Samuel....	Chief Engineer.....	1841-52.
Total, 832½ do	Rigney, James.....	Assistant Engineer.....	1843-49.
Commenced, 1837.	Lyons, James.....	Superintending do.....	1843-55.
Completed, 1844.	Keefer, Samuel.....	Special report.....	1846.
Length of lock, 134 ft.	Page, John, sen.....	Chief Engineer Canals, &c.....	1853-80.
Breadth do 33 ft.	Ranney, G. W.....	Superintending Engineer.....	1856-73.
Water on sills, 5 ft.			
For cost, Trent River Navigation improvements, see Bobcaygeon Canal.	Baillairgé, G. F.....	Reports and Estimates on Trent River navigation.....	1863-74.
	Belcher, Thomas D.....	Superintending Engineer.....	July, 1873-1884.
	Rogers, Richard B.....	Assistant Superintending Engineer.....	1873-81.
	Perley, Henry F.....	Chief Engineer, Public Works.....	Nov., 1880-91.
	Rogers, Richard B.....	Survey, Trent Valley District.....	1882-83.
	do.....	Superintending Engineer.....	1st July, 1884-91.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
CULBUTE CANAL (Upper Ottawa.)			
108 miles above Ottawa City. Overcomes L'Islet Rapids; opens communication from Bryson to Aberdeen, a distance of 70 miles. Commenced, 1873. Completed, 1876. Length of canal, $\frac{1}{2}$ mile. No. of locks combined, 2. Material, wood. Length of locks, 200 ft. Breadth do 45 ft. Rise or lockage, low water, 14 ft. Rise or lockage, high water, 18 ft. Water on sills (lowest) 6 ft. A link of projected navigation, Montreal and Lake Huron, <i>via</i> River Ottawa. See Ottawa and Lake Huron projected canals, and General Report Pub. Works 1867-82 Page 828. Total expenditure from 1st July, 1867, to 30th June, 1889, \$413,717.48.	Page, Johnsen..... Sippell, John G..... do Perry, Capt. G. H..... Thompson, H. B..... Hamel, Amédée..... Hamel, Félix M..... Harrington, Thos. W..... do Baillaigé, G. F..... Parent, E. H..... Stark, David.....	Chief Engineer..... Superintending Engineer..... Consulting do Resident do Assist. Resident do Engineering staff..... do Assistant Engineer..... Assistant Superintending Engineer..... Superintending do do Superintending Engineer.....	1872-90. 1873-77. 1877-79. 1873-87. Sept., 1873-78. Aug., 1874. do 1874. 1873-80. 1st May, 1875-87. 1877-78. 4th Feb., 79, to 1st May, 1880. 1st May, 1880-90.
DESJARDINS CANAL. (Burlington Bay.)			
Prolongs navigation from Burlington Bay <i>via</i> "Coote's Paradise," to town of Dundas. Opened 16th Aug., 1837. Dimensions, originally—Length of canal, 3.68 miles. No locks. Breadth 33 ft. Depth of water, originally $7\frac{1}{2}$ ft. Cost \$98,684, of which Government advanced \$68,000 prior to 1837. Total cost to 30 June 1867. Govt. funds,—loan \$120,263 93 Other than Govt's funds, loan 30,684 00 \$150,947 93 John Patterson, President of Company, and John Dickie, Secretary, 1841. 5***	Desjardins, P..... Baldwin, Robert..... Stewart, James.....	Obtained Act of incorporation for construction..... Was chosen as Director of the Desjardins Canal, in place of P. Desjardins, deceased, Nov. 1827. Report on condition of works, &c..... (See general report on Public Works, 1867 by G. F. Baillaigé, pages 573-574.)	30th Jan., 1826. 3rd Feb., 1849.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
FARRAN'S POINT CANAL. (River St. Lawrence.)			
River St. Lawrence (one of the Williamsburgh Canals). Commenced, 1844. Opened, June, 1847. Completed, 1848. Length of canal, $\frac{3}{4}$ mile. No. of locks, 1. Length of lock, 200 ft. Breadth do 45 ft. Water on sill (ordinary) 9 ft. Rise or lockage, 4 ft. This canal is to be deepened to a navigable depth of 14 feet, with a lock of 270 x 45 ft. and 14 ft. water on sills. For cost of construction, See Williamsburgh Canals.	Clowes, Samuel.....	Report and estimate.....	1826.
	Barrett, Alfred.....	do	1830.
	Forbes, W. B., Dep. Com. Genl.....	Superintendent, St. Lawrence Canals.....	1830, to 15th June, 1847
	Mills, J. B.....	Surveys, reports and superintending construction.....	1833-47.
	Phillipotts, Lt.-Col., R.E.	Report to Imperial Government.....	1839-40.
	Keefer, Samuel.....	Chief Engineer.....	1841-52.
	Baillairgé, G. F.....	Resident Superintending Engineer.....	1853-56.
	Rose, Isaac.....	Superintendent, Williamsburgh Canals.....	4th Nov., '53, to 26th Apr., 1875.
	Page, John, sen.....	Chief Engineer.....	1853-90.
	Macdonell, Alex. Greenfield.....	Superintendent.....	26th April, 1875-89.
		Died.....	27 Jan., '89.
	Rubidge, Thomas, S....	Superintending Engineer, enlargement	1880.
	Killaly, H. H., jun.....	Resident do	Dec., 1884-88
	Reid, John.....	Superintendent.....	18th Oct, '89
		Died.....	13th May, '90
	Reid, John D.....	Acting Superintendent.....	1st May, '90.
FENELON FALLS CANAL, &c. (River Trent.)			
Part of Trent River, navigation to connect Bay of Quinté, Lake Ontario, with Lake Huron. Commenced, 16th Oct., 1882. Completed, 22nd Oct., 1885. Length of canal, $\frac{1}{2}$ mile. Length of locks, 134 ft. Breadth do 33 ft. Water on sills, 5 ft. Two lift locks. This canal connects Sturgeon Lake with Cameron Lake. For cost, Trent River Navigation, See "Bobcaygeon Canal."	Page, John, sen.....	Chief Engineer, Railways and Canals	1880-90.
	Rubidge, Thos. S.....	Superintending Engineer.....	1881-86.
	Clark, C.....	Engineering staff.....	1882-86.
	Weller, J. L.....	do	July, 1882-88
	Greenwood, H.....	do	1883-87.
	Stark, David	Superintending completion of works.....	1887-90.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Dates.	Works.	Engineers, etc.	Services.	Dates.
FORT FRANCES LOCK, &c. (River Lapluie, Dawson Route.)				
	Projected to permit navigation from Kettle Falls, Rainy Lake, to Lake of the Woods, 164 miles.	Page, John, sen.....	Chief Engineer, Public Works.....	1853-79.
	Commenced, 1st July, 1875.	do	Prepared plan of lock	1876.
	Completed except lock gates, 1878.	Fleming, Sanford.....	Consulting Engineer.....	1875.
	Cost up to 22nd Jan., 1879, \$288,278.51.	Hazlewood, Sam.....	Survey, report, &c.....	1875.
	Length of canal, 800 ft.	do	Superintending Engineer.....	1875-78.
	do lock, 200 ft.	Sutherland, Hugh.....	Resident Engineer and Superintendent of Works	11th May, 1875-78.
	Breadth of do 36½ ft.	Mortimer, Henry J.....	Profile, selected location, &c.....	1875.
	Water on sill (lowest) 7 ft.	do	Assistant Engineer.....	1875-78.
		Cuddy, E. C.....	Plans of Fort Frances.	1875.
		Thompson, W. H.....	Ast. Resident Engineer and Superintendent of Works.....	1875-79.
		Baillairgé, Geo. Fred....	Plan of lock and gates modified, and work laid out accordingly	Aug.-Sept., 1876.

GALOPS CANAL (One of the Williamsburgh Canals.)—River St. Lawrence.

Overcomes the "Galops Rapids," River St. Lawrence.	Clowes, Samuel.....	Submitted report and estimate.....	1826.
	Wright, Benjamin	Survey and report.....	1833.
Commenced, 1844.	Killaly, Hamilton H....	Chairman Board of Works.....	1841.
Completed, Nov., 1846.	Mills, J. B.....	Surveys, reports, &c	1833 to 1843.
Length of canal, 2½ miles.	do	Superintending Engineer.....	1843 to 15th June, 1847
No. of locks, 2.	Phillpotts, Lt.-Col, R.E.	Approved plans, &c	1843.
Length of locks, 200 feet.	Rose, Isaac.....	Superintendent.....	4th Nov., '53, to 26th April, '75.
Breadth do 45 do	Page, John, sen.....	Chief Engineer.....	1853-90.
Lift do 45 do	Macdonell, Alexander	Special report.....	1880.
The "Galops" and "Iroquois" Canals were connected by the "Junction." The three are now known as the "Galops Canal."	Greenfield	Superintendent Williamsburgh Canals.....	26th April, 1875-89.
		Died.....	27th Jan., '89
Length of canal, 7½ miles.	Rubidge, Thos. S.....	Super'tending Engineer, deepening rapids.	1875-82.
No. of locks, 3.			
Length of locks, 200 feet.	Haycock, Sam. H.....	Engineering staff, enlargement.....	Aug., 1879.
Breadth do 45 do	Reid, John.....	Superintendent—Appointed.....	18th Oct., '89
Water on sills 9 do		Died.....	13th May, '90
Rise or lockage 15½ do	Reid, John D.....	Acting Superintendent.....	1st May '90

NOTE.—This Canal is being deepened to a navigable depth of 14 feet with locks of 270 x 45 ft.

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PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—*Continued.*

Works.	Engineers, etc.	Services.	Dates.
<i>Galops Canal—Con.</i>			
"Junction" commenced, 1851.	John Page.....	Resident, Superintending Engineer.....	1850-53.
"Junction" completed, 1856.	G. F. Baillairgé.....	do do	1853-56.
For cost of construction, See "Williamsburgh Canals."			

GEORGIAN BAY CANAL (Lake Ontario to Lake Huron.)

Projected.	Tully, Kivas.....	Proposed canal, Lake Ontario to Lake Huron	1845-51.
See Ottawa and Lake Huron projected canals, General Report of Public Works Department, 1867 to 1882, page 844.	West, James.....	Proposed Georgian Bay, Lake Huron and Ottawa Canal.....	23rd Feb., 1856.
	Monro, Thomas.....	In charge of summer level survey, projected canal.....	1857.
	Keefer, Thomas.....	Report on project.....	1863.

GRENVILLE CANAL (River Ottawa-)

Carries navigation round "Long Saut Rapids," Ottawa River.	Mann, Col. Gother, R.E.	Consulting Engineer, Ordnance Canals..	1819-33.
Commenced, summer 1819.	Stehelin, Capt., R.E....	Asist. General Superintending Engineer, construction.....	1819-33.
Durham boats passed 1st August, 1832.	Mann, Capt. J. W., R.E.	Engineer in charge of construction.....	1819.
Completed, 1833.	DuVernet, Lt.-Col., R.E.	General Superintending Engineer.....	1819-33.
Length of canal, 5 $\frac{3}{4}$ miles.	do do ..	Report on works to Imperial Government ..	20th Nov., 1820.
No. of locks, 7.	Read, Capt. J. M.	Asst. Engineer in charge construction ..	1824.
Locks varied in length from 107 to 130 $\frac{1}{2}$ ft., and in breadth from 19 to 32 $\frac{1}{2}$ ft., with 6 ft. of water on sills.	King, Capt. Wm., R.E..	Superintending Engineer.....	1825.
	By, Lt.-Col.	Letter to General Mann, recommending enlargement.....	13th July, 1826.
Enlargement commenced, 1871.	Smyth, Major General Sir J. Carmichael.....	Report to General Mann adverse to enlargement.....	1826.
Completed, 27th May, 1882.	Hayne, Capt., R.S. Corps	Superintending construction Ottawa River Canals.....	1833-34.
Length new works, 5 $\frac{1}{2}$ miles.	Hadden, Lieut., R.E....	Engineering staff.....	1834.
No. of locks, 5.	Hayes, Capt., R.S. Corps.	do	1834.
Length of locks, 200 feet.	Howorth, Lieut., R.E...	do	1836.
Breadth do 45 do	Vavasour, Lieut., R.E...	do	1840.
Water on sills 9 do	White, Lieut., R.E.....	do	1844.
Rise or lockage 45 $\frac{1}{2}$ do	Gordon, Lieut., R.E...	do	1844.
For cost of works, See Carillon Canal.			
Ordnance canals were maintained at the expense of the Provincial Government since 1st			

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
<i>Grenville Canal—Con.</i>			
October, 1853. Their transfer from the Imperial Government was accepted by Order in Council 25th January, 1856. Transfer ratified by Provincial Act, 19 vic. cap. 45, 19th June, 1856. The steamer "St. Andrew" was the first craft that passed through this canal, when it was first constructed.	Ford, Capt. Chas. E., R.E.	Superintendent of works.....	1846.
	Page, John, sen.....	Chief Engineer, Public Works, &c., Canada	1853-1890.
	Thompson, John.....	Superintendent.....	15th July, '59, to 30th April, '67.
	Forbes, William Bilsbury	do.....	1st May, '67, to May, '89
		Died.....	29th May, '89
	Sippell, John G.....	Superintending Engineer.....	1857-77.
		Consulting do.....	1877-79.
	Bell, Andrew.....	Assistant Engineer.....	1871-85.
	Deniel, Emile.....	Assistant Engineer, enlargement.....	Sept., 1872, to 1887.
	Parent, E. H.....	Resident Engineer.....	July, 1872-78
		Superintending Engineer.....	4th Feb., '79, to 1st May, 1880.
	Baillairgé, Geo. Fred....	Superintending Engineer..	1877-79.
	Languedoc, G. de G....	Engineering staff.....	May, 1879-87
	Stark, David.....	Superintending Engineer.....	1st May, 1880-90.
	Marceau, Ernest.....	Assistant Superintending Engineer.....	May, '80-'90.
	Simpson, George.....	Superintendent—Appointed, O.C.....	18th Oct., '89.
IROQUOIS POINT CANAL (River St. Lawrence.)			
River St. Lawrence. One of the Williamsburgh Canals—Overcomes Rapids at Iroquois Point. Commenced, 1844. Completed, Sept., 1847. Length of lock, 200 ft. Breadth do 45 ft. Water on sills, 9 ft. Lift of lock, 3½ ft.	Clowes, Samuel.....	Submitted report and estimate.....	1826.
	Wright, Benjamin.....	Survey and report.....	1833.
	Killaly, Hon. H. H.....	Chairman, Board of Works.....	1841.
		Reports, surveys, &c.....	1833-43.
	Mills, J. B.....	Superintending Engineer.....	1843 to June 13, 1847.
The "Iroquois Point" and "Galops" Canals were in 1851-56, joined, by the Junction Canal. The three are now known as the Galops Canal; its dimensions are—	Phillipotts, Lt.-Col., R.E.	Report approving plans, &c.....	1843.
Length of Canal, 7½ miles No. of locks, 3. Length of locks, 200 ft. Breadth do 45 ft. Water on sills, 9 ft. Rise or lockage, 15½ ft. For cost of construction, See "Williamsburgh Canal."			

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
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JUNCTION CANAL (River St. Lawrence.)

One of the Williamsburgh Canals, about 2 mls long. Connects the Iroquois and Galops Canals on the River St. Lawrence. Commenced, 1851. Completed, 1856. Those three Canals are now known as the Galops Canal. Length of Canal, 7½ miles. No. of locks, 3. Length of locks, 200 ft. Breadth do 45 ft. Water on sills, 9 ft. Rise or lockage, 15½ ft.	Page, John, sen.	Resident Superintending Engineer.	1850-53.
	do	Chief Engineer, Public Works	1853-80.
	do	do Canals	1880-90.
	Baillairgé, G. F.	Resident Superintending Engineer.	1853-56.
	Rose, Isaac	Superintendent	4 Nov., 1853 to 26 April, 1875.
	Macdonnell, Alex. Greenfield	Superintendent	Apr. 26, 1875- 89.
		Died	27th Jan., '89
This canal is being deepened to a navigable depth of 14 ft. with locks of 270 x 45 ft.	Rubidge, Thomas S.	Superintending Engineer, enlargement ..	1880.
	Reid, John	Superintendent, appointed	18 Oct., '89.
		Died	13 May, '90.
	Reid, John D.	Acting Superintendent	1 May, '90.

LACHINE CANAL (River St. Lawrence.)

Overcomes Lachine or Saut-St-Louis Rapids, River St. Lawrence.	Lymburner, Mr.	Proposed canal, Montreal to Lachine. (See Mr. Byrner, archivist's report, 1889)	1791.
Commenced, 17th July, 1821. Opened in 1824. Completed in 1825.	Provost, Sir George	Bill providing for construction introduced in Assembly by M. P. for Montreal. Recommended construction.	Dec., 1792. 1815.
Length of canal, 8 miles 718 yards.	Burnett, Thomas	Survey and plan	Spring, 1820.
No. of locks, 7.	McDowall, Robert	Superintending Engineer	1821-26.
Length of locks, 100 ft.		Assistant Superintendent of work	1821.
Breadth " 20 ft.	Gibbs, Alexander	Assistant Superintendent do	1st June, to 1st Oct., '23
Water on sills 5 ft.	Finlay, John, Dep. Com. General.	Superintending Engineer (construction).	1823-29.
Cost until 1826, \$438,404.15.	Adams, John	Superintendent.	5th Sep., 1823
1st Enlargement.	Burnett, Thomas	Superintendent.	1821-26.
Commenced, 1843. Completed, 1849.	Burnett, John	Superintendent.	1826.
	Forbes, — Dep. Com. Gen.	Superintendent St. Lawrence Canals ..	1830.
Length of canal, 8½ miles	Barrett, Alfred	Report on 1st enlargement	1841-48.
locks, 200 ft.			
Breadth " 45 ft.	Rubidge, F. P.	Assistant Chief Engineer	1841-71.
Rise or lockage, 44½ ft.			
No. of locks, 5.	Hindmarsh, J	Superintendent.	1842.
Water on sills at two lower locks, 16 feet.	Cornell, John	Engineering staff, enlargement	1843-47.
Water on sills at 3 locks, 9 feet.	Robinson, Arthur G.	Assistant Engineer	1843-48.
Old locks are used as weirs	Walton, D. S.	Engineering staff, enlargement	1843-49.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
<i>Lachine Canal—Con.</i>			
2nd Enlargement.	Carmichael, Daniel.....	Superintendent.....	1844-46.
Length of canal, $8\frac{1}{2}$ miles	Wells, Arthur.....	Engineering staff, enlargement	1846.
new locks, 270 ft			
Breadth " 45 ft	Dunlop, —	Superintendent	1846-49
Wat on sills 3 upper, 14 ft	Kingsford, Wm.....	Survey, map and description	1847.
" 2 lower, 18 ft	Stewart, James	Survey new works	1847-54.
No. of locks, 5.	McDonald, J. Frobisher.	Superintending Engineer.....	1848-52.
Rise or lockage, 45 ft.	Bissett, Alexander.....	Superintendent.	1849 to Jan., 1868.
Works commenced, 1873.	Sippell, John G.....	Superintending Engineer.....	1853-77.
" completed, 1884.		Superintending Engineer, enlargement..	1870-77.
Commissioners appoint'd, 1823 :—	G. F. Baillairgé.....	Consulting Engineer do ..	1877-79.
Richardson, John—Chairman.		Superintending Engineer do ..	1877-79.
Grant, C. W.	Page, John, sen.....	Chief Engineer.....	1853-90.
Porteous, T.		Special report.....	1880.
Garden, Geo.	Conway, Michael.....	Superintendent and Assistant Engineer..	Apr., 1868-90
Ross, David.	Harrington, Thos. W....	Engineering staff.....	July 18, 1870
Desrivieres, François.	do	Assistant Superintending Engineer.....	1st Oct., 1875-87.
Commissioners to provide for care and management of Lachine Canal, January, 1831 :—	Conway, John.....	Engineering staff, enlargement.....	1871-83.
John Richardson.		Engineer, electric light apparatus.....	1886-91.
C. W. Grant.	Joslin, H. K.....	Resident Engineer, Montreal Division, 2nd enlargement.....	July, 1872-82
T. Pothier.	Sutcliffe, John.....	Engineering staff, enlargement.....	15th July, 1872-86.
Expenditure by Imperial Government, \$40,000.00	Thompson, H. B.....	do do	Dec., 1872.
Expenditure by Provincial Government prior to 1st July, 1867, \$2,547,532.85.	Aylmer, J. A.	do do	1873-79.
Expenditure, 1st July, 1867, to 30th June, 1880, \$6,633,681.87.	Bellingham, A.....	Assistant Resident Engineer, 2nd enlargement, Upper Division.....	1873-78.
Total Expenditure to 30th June, 1889, \$9,221,214.72	Mooney, Wm.....	Engineering Staff, enlargement, Montreal Division	1873.
	Robertson, G. E.....	Engineering Staff, Lower Division, 2nd enlargement	1873-85.
	Leprohon, C. de B.....	Engineering Staff, enlargement, Lachine Division.....	1875-85.
	Page, John, jun.....	Engineering Staff, enlargement.....	April, 1876-79.
	Marceau, Ernest.....	do do	July, 1876-77
	Killaly, H. H., jun.....	Resident Engineer, Upper Division, 2nd enlargement.....	Feb., 1876-86
	Rosamond, Joseph A....	Engineering Staff, enlargement.....	1876-82.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers etc.	Services.	Dates.
<i>Lachine Canal—Con.</i>			
	Boulay, Philéas.....	Assistant Engineer, enlargement.....	1877-80.
	Rhéaume, L. N.....	Assistant Engineer, enlargement.....	1877-84.
	Henry, Geo. W.....	Enlargement Lachine Canal.....	1880-85.
	Parent, E. H.....	Superintending Engineer.....	12th May, 1880-91.
	Duchsneau, A.....	Superintending Engineer's Office, Montreal. Eng. Staff and draughtman.....	1872-91.
	Sutcliffe, John.....	Engineering staff, enlargement St. Gabriel's Basin.....	1882-86.
	Doré, J. E.....	Engineering staff.....	1884-85.

LINDSAY LOCK, &c. (Lake Scugog).

Part of projected Trent River navigation—Bay of Quinté-Lake Ontario, to Lake Huron—	Baird, N. H.....	Report on Lake Scugog, &c.....	1835.
	do.....	Superintending Engineer.....	1837-41.
	Killaly, Hon. H. H.....	Report prior to.....	1843.
Commenced, 1837. Completed, 1844.	Keefer, Samuel.....	Chief Engineer.....	1841-52.
	Lyons, James.....	Superintending Engineer.....	1843-55.
Length of canal, 345 feet. do lock, 134 do	Rigney, James.....	Assistant Engineer.....	1843-49.
Breadth of do 34 do	Ranney, G. W.....	Superintending Engineer.....	4 May, 1855 to July, '73.
Water on sills, 5 do	Page, John, sen.....	Chief Engineer.....	1853-90.
Lift of lock, 8 do	Baillairgé, Geo. Fred....	Assistant Chief Engineer Reports and Estimates, Trent River Works.....	1863-74.
Converted into a slide in 1859.	Belcher, Thos. Deaves...	Superintending Engineer.....	July, '73-84.
Rebuilt in 1870 by Govt. of Ontario, who control it.	Rogers, Richard B.....	Assistant Engineer.....	1878-81.
For cost, Trent River Navigation, See "Bobcaygeon Canal."	do.....	Survey, Trent Valley Canals.....	1882-83.
	do.....	Superintending Engineer.....	July, '84-91.

MILL RAPIDS CANAL (Cascades Point, River St. Lawrence.)

Not in use for purposes of navigation since construction of Beauhar- nois Canal.	Royal Staff Corps.....	Imperial Government work. (Designed by Governor Haldimand).....	1779-83.
Commenced and completed between 1779 and 1783.	Twiss, Capt. R. E.....	Superintending Engineer.....	1779-83.
Material—stone.	Mann, Col. Gother, commanding R. E.....	Report recommending enlargement.....	24 Dec., 1800
Breadth of lock, 6 feet.	By, Lt-Col., R. E.....	Report on works.....	24 Apr., 1805
Lock rebuilt, 1804.	Clarke, Isaac Winslow, Depy. Com'r'y-Genl....	Superintendent.....	1809-22.
Length, 120 feet.			
Breadth, 9½ do			
Water, 3½ do			

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
<i>Mill Rapids Canal—Con.</i>			
"Mill Rapids" and "Cascades" Canals were connected about this time by the construction of an additional lock, and became known as Cascades Canal.	DuVernet, Lt-Col., R. E.	Superintending Engineer.....	1819-24.
	Donatti, L., Depy. Asst. Com'r'y-Genl.....	Superintendent.....	July, 1820.
	King, Capt. W., R. E....	Superintending Engineer....	1826.
	DuVernet, Lt-Col., R. E.	Report on works..	1827-33.
	Baillairgé, Geo. F.....	Survey and plans of Ordnance Canals along the River St. Lawrence, with estimates of cost of utilizing water power at each.....	1857.

MURRAY CANAL (Lake Ontario).

(Between Head Waters, Bay of Quinté and Lake Ontario.)		(First official notice of this work occurs in a resolution adopted by the Lt-Gov. and Council, 1796.)	
Commenced, 1882.	Baird, N. H.....	Report on projected work.....	16 Nov., 1833
Contract signed, August, 1882.	Philpotts, Lt-Col., R. E..	do do	3 Aug., 1840.
J. D. Silcox & Co., contractors.	Keefer, Samuel	do do	1846.
Completed, 1889.	Page, John, sen.	Chief Engineer....	1853-90.
Length of canal and approaches, 9½ miles.	Rowan, James H	Survey, boring's, etc.....	1870-71.
Length of cut across isthmus, 4½ miles.	Rubidge, Thos. S.....	Superintending Engineer	1881-82.
Breadth of canal, 80 feet.	Rosamond, Joseph A....	Resident Engineer.....	June, 1882-91
Depth of water, lowest level of lake, 11 feet.	Keeler, T. P.....	Superintendent.....	Augt. '89-91
Ordinary depth, 12 feet.			
It has no locks.			
Expenditure from 1st July, 1867, to 30th June, 1889, \$1,043,046.41.		NOTE.—For further particulars see Sessional Papers, No. 83, 6th March, 1883.	

OTTAWA AND LAKE HURON ROUTE.

Projected.	Taylor, David	Survey of projected canal route, under instructions of Commissioners, appointed by Parliament of Upper Canada, 4th March, 1837.....	
Shanly's Survey.	Thompson, David.....		
Distance, Montreal to Lake Huron <i>via</i> projected route, 430 miles.	Hawkins, Wm.....		
Obstructed by rapids, for about 60 miles.	For Commissioners. See Capt. Baddeley, R. E., "Record of Engineers."	Reported thereon to Hon. John Macaulay, surveyor general of Upper Canada, J. Cartwright and Capt. Baddeley, Royal Engineers	
Total rise Montreal to summit level 642 ft.	Page, John, sen.....	Chief Engineer, Public Works.....	1853-80.
Total fall from summit level to Lake Huron 83 ft.	do	do Canals	1880-90.
Of the 60 miles obstructed 22 are already improved.	West, James.....	Proposed Georgian Bay, Lake Huron and Ottawa Canal.....	23rd Feb., 1856.
Estimated cost, of Canals with locks 250 x 50 and 10 ft water on sills, by W. Shanly \$24,000,000.	Shanly, Walter.....	Proposed Ship Canal <i>via</i> River Ottawa, Montreal to Lake Huron.....	1857-58.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
<i>Ottawa and Lake Huron Canal Route—Con.</i>			
Clarke's estimate for canals and dams with locks 250 x 45 and 12 ft water on sills \$12,000,000. See Public Works' Report 1867-82.	Stewart, James	Survey, Ottawa and Lake Huron, proposed Ship Canal.	1857-58.
	Shanly, Robert.	do do	1857-58.
	Slater, James Dyson.	do do	1857-58.
	Clarke, Thomas C.	Survey, and report on project.	1859.

RAPIDE-PLAT CANAL (River St. Lawrence.)

Overcomes "Rapide-Plat Rapids," River St. Lawrence—one of the Williamsburgh Canals.	Clowes, Samuel.	Report, estimate, and proposed line.	1826.
	Barrett, Alfred.	Report, &c. do do	1830.
Commenced, 1844. Opened, Sept., 1847. Completed, 1848. Length of canal, 4 miles. Number of locks, 2. Length of locks, 200 ft. Breadth of locks, 45 ft. Water on sills, 9 ft. Rise or lockage, 11½ ft. Enlargement commenced, 1883, in progress.	Mills, J. B.	{ Surveys, reports, &c. do	1833-43.
		{ Superintending Engineer.	1843 to June, 1847.
	Phillipotts, Lt.-Col., R.E.	Report to Imperial Government.	1839-40.
	Keefer, Samuel.	Chief Engineer.	1841-52.
	Baillairgé, Geo. Fred.	Resident Superintending Engineer.	1853-56.
	Page, John.	Chief Engineer.	1853-90.
Dimensions 270' x 45' x 14'. For cost of construction see Williamsburgh Canals.	Macdonell, A. Greenfield	Superintendent, Williamsburgh Canals.	26th April, 1875-89.
	Rubidge, Thomas S.	Died.	27 Jan., '89.
		Superintending Engineer, enlargement.	1880.
	Killaly, H. H., jun.	Resident Engineer, enlargement.	Dec., 1884-88
	Rhéaume, L. N.	Engineering staff, enlargement.	Dec., 1884.
	Reid, John.	Superintendent.	18th Oct., '89
		Died.	13th May, '90
	Reid, John D.	Acting Superintendent.	1st May, '90.

RIDEAU CANAL (Ottawa to Kingston.)

IMPERIAL GOVERNMENT WORK.

Connects River Ottawa at City of Ottawa, with Lake Ontario, at City of Kingston.	Jebb, Capt., R.E.	Proposed route, Ottawa to Kingston.	1815-17.
Commenced, 21st September, 1826.	Nichol, Col., R.E.	Ordered Capt. Jebb to survey Rideau Canal route.	1815.
Opened for 45 miles on 12th September, 1831.	Clowes, Samuel.	Proposed works, &c.	1823.
Formally opened 29th May, 1832.	Smyth, Major-Gen. Sir J. C., R.E.	} Joint report and estimate.	182
Completed, August, 1832.	Hoote, Lt.-Col., Sir G. R. E.		
	Harris, Major, R. E.		
Length of Rideau navigation, 126½ miles.			

PUBLIC WORKS and their Engineers, &c Canada—Canals, 1779-1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
<i>Rideau Canal—Con.</i>			
Number of locks, 47.	Elliot, J. S.	Ordinance Commissioner, obtained lands from Mr. Sparks for Rideau Canal purposes prior to 1826.	
Ottawa to Kingston, 33 locks ascend, and 14 descend.	Finlay, John	Dep. Asst. Commissary Gen., Supt. Div.	1827.
Lockage, 446½ ft.			1828.
Rise, 282½ ft.			
Fall, 164 ft.	By, Lt.-Col., R. E.	Superintending Engineer	Sept., 1826, to 1832.
Length of locks, 134 ft.	McTaggart, J.	Examination and Report for Imperial Government.	1827-28.
Breadth do 33 ft.			
Water on sills, 4½ to 5 ft.	Lewis, Col., R. E.	Commissioner, Rideau Canal const. Spring	1828.
Expenditure prior to 1st July, 1867—	Fanshaw, Col., R. E.	do do do	1828.
Imp. Govt. \$3,911,701.47			
Prov. do 153,062.60	Rudyerd, L.	Postmaster, Rideau Canal	1830.
Dom. Govt. up to 30th June, 1889. 121,097.76	Hagerman, Joseph N.	Solicitor, Rideau Canal.	1st Nov., 1831.
Total cost to 30th June, 1889. \$4,185,861.83	Baird, N. H.	Engineering staff	July, 1828-1832.
The "Pumper" was the name of the first craft that steamed up this canal.	Bolton, Major		1832-39-41.
Ordinance canals were maintained at the expense of the Provincial Government from 1st Oct., 1853. Their transfer from Imp. Govt. was accepted by Order in Council 25th Jan., 1856. Transfer ratified by Prov. Act, 19th Vic. Cap. 45, 19th June, 1856.	Thompson, Lt.-Col.		1841.
	Ford, Capt. Chas. E.	Royal Engineers, or Ordnance Officers, who controlled the Canal from 1832 to 1857, as nearly as can be ascertained.	1846.
	Chater, Lt.-Col.		1853.
	Harvey, Charles.		To 1857.
	Burrows, J.	Overseer of works.	1832.
	Tughill, M.	Assistant Surgeons	1833.
	Kelly, W.		
	Frome, Lt.-Col., E. G., R. E.	Description of works	28th Feb., 1837.
The first stone of the Locks of this Canal, weighing above 1½ ton, was laid by Captain Franklin (afterwards Sir John), at 4 P.M. on the 16th of August 1827, after his return from the Mackenzie River and the Polar Sea.	Bolton, Major D., R. E.	Description Long Island dam, built 1836.	1839.
	Holloway, Col. William Cuthbert Elphinstone, C.B.	Testimony re Rideau Canal lands.	15 May, '45.
	Thompson, Maj. Francis Renglet, R.E.	Testimony re Rideau Canal lands.	18 Mar., '45.
	Denison, Lieut. W., R.E.	Description of dams, locks, &c	1839.
	Page, John, sen.	Chief Engineer.	1853-90.
	Coffin, Lt.-Col., W.	General Agent, Ordnance property	Sept., 1856, Jan. 1878.
	Killaly, J. S.	Superintending Engineer	Jan., 1857, to Apr., 1858.
	Slater, James Dyson	do do	10th June, 1858, to 1st Oct., 1872.
	Wise, Frederick, Ashworth, Millbank	do do	1st Oct., 1872-1891.
	Kingsford, William	Prepared Map of Canal showing area of water-sheds, &c.	1872.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
RIVIÈRE DU LIÈVRE LOCK AND DAM.			
This river falls into the Ottawa, 12 miles below Ottawa City. The lock, etc., is constructed to overcome "Little Rapids," 10 miles above Buckingham. Work in progress, 1890. Dimensions of Lock— Length, 162½ ft. Breadth, 32½ ft. Water on sill, 8 ft. Rise or lockage, 14 ft. Commenced in 1887— Expenditure to 1st July, 1890, \$182,186.72.	Perley, Henry F.	Chief Engineer, Public Works	1886-91.
	The Hamel, Félix M.	Engineer in charge.	1887-91.
		Contract signed 29th December, 1886.	
		Messrs. Thompson & Poupore, contractors.	

SAUT-STE-MARIE CANAL (Between Lakes Huron and Superior.)

Through St. Mary's Island, to connect Lake Huron with Lake Superior, overcoming Saut-Sainte-Marie Rapids.	Bruyères, Capt., R.E. ...	Report on claims, &c., in connection with a Canal constructed at Saut-Ste-Marie, on Canadian Territory before April 1802.	Prior to 23rd Dec., 1803.
Commenced by Govt. of Canada, 1887.	Mann, Col. Gother, R.E.	Correspondence, &c., re Canal.	18th April, 1803.
In progress 1890-91.		See "Record of Engineers"	1889.
Length of canal, ¾ of a mile.		Also Mr. Brymner, Archivist's Report	1886.
Length of lock, 600 ft.	Almoy, J.	Report on Saut-Ste-Marie Canal to Legislature, State of Michigan, U.S.A., prior to	1847.
Breadth do 85 ft.	Killaly, Hon. H. H.	Special Report.	30th Mar., 1847.
Water on sills 18 ft.	Keefer, Samuel H.	Chief Engineer, Public Works, survey...	1852.
Lift, about 18 ft.	Wise, Fred. A. M.	Engineering staff survey proposed canal.	1852.
To be completed, May, 1892.	Page, John, sen.	Chief Engineer.	1853-90.
Expenditure to 30th June, 1889, \$42,164.01.	Crawford, Wm.	Chief Assistant Resident Engineer ...	1837-91.
	Curran, Veysie	Assistant Resident Engineer.	1st Mar., 1889-91.
	Thompson, W. G. Mc-Neil.	Resident Engineer in charge	Jan., 1889-91.

SHUBENACADIE CANAL (Halifax to Bay of Fundy.)

Commenced by Shubenacadie Canal Co. 25th July, 1826.	Hall, Francis Benjamin.	Reports, &c.	1825-26.
Capital of Co., £60,000, N. S. Currency.	Telford, Thomas.	Founder of the Institution of Civil Engineers, Great Britain incorporated 3rd June, 1828. Stockholder, Shubenacadie Canal for £450. Report on plans, &c.	1825.
N. S. Govt. grant £15,000, and an annuity of £1,500, after 1829, for ten years.			

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
<i>Shubenacadie Canal</i> —Continued.			
	Earl of Dalhousie.....		
<i>Original Design.</i>	Sir James Kempt.....		
Length of canal from Halifax Harbour to mouth of Shubenac- cadie River, Basin of Minas, 53 miles, 10½ yards per Keating.	Sir Howard Douglas....	Turned first sod.	25th July, 1826.
No. of locks, 15.	Rear Admiral Lake....		
Length of locks, 87 ft.	Maj.-Gen. Sir James Keane.....		
Breadth do 22½ ft.	Fairbanks, Charles Wm.	Engineer in charge.....	1847-58.
Depth of water 8 ft.	Faulkner, Wm.....	Report to N. S. Govt....	15th Dec., 1852.
Lockage, ascend'g, 95' 10"	Talcott, W. H.....	Report, plans, &c.....	1855-56.
do descend'g, 95' 4"			
Total 191' 2"	Avery, James P.....	President....	
See Stocklist, Journals— House Assembly, N.S., 1856.	Stairs, William } Gibson, John.. }	Directors... Shubenacadie Canal Co..	1856.
NOTE.—The canal was purchased by the Halifax Land Improvement Co. in 1889. It was never completed according to the original design, al- though a small steamer passed through it from end to end.	Gray, Samuel.....	Secretary....	
	Fairbanks, L. P.....	Superintendent and Proprietor.....	1855-89.
	Keating, E. H.....	Paper on Shubenacadie Canal read before American Society Civil Engineers.....	21st Nov., 1883.

SPLIT ROCK (River St. Lawrence.)

One of the old canals on St. Lawrence replaced by the Beauharnois Canal.	Twiss, Capt., R.E.....	Designed by Governor Haldimand.....	
Commenced and com- pleted between 1779 and 1783.	do	Superintending Engineer	1779-83.
Material, stone.		Report, to Imperial Government on Canals	1781.
Length of canal, 200 ft.	Mann, Col. Gother, com- manding R.E.....	Report, to Imperial Government.....	24th Dec., 1800.
Breadth, 6 ft.	By, Lieut.-Col., R.E....	Report on works	24th April, 1800.
Water, about 2 ft.			
Lock rebuilt, 1804.	Clarke, Isaac Winslow, Dep. Com'ry-Genl....	Superintending Engineer	1809-22.
Length, 120 ft.			
Breadth, 9½ ft.			
Water, about 3 ft.			
Enlarged, 1817.	Long, Maj. Andrew, R.E.	Superintendent, enlargement and repairs.	1817.
Breadth, 12 ft.			
Water, 3½ ft.			
Portion of Lock still in existence, 1890.	Donatti, L., Dep. Asst. Com'ry-Genl.....	do	July, 1820.
	King, Capt. Wm., R.E.. Forbes, W. B., Dep. Com'ry-Genl.....	Superintending Engineer	1826.
This Lock was constructed by the Royal Staff Corps and was transferred by the Imperial to the Pro-	Yule, Capt. Patrick, R.E.	Superintendent, St. Lawrence Canals... do construction and repairs, St. Lawrence Canals.....	1830. 1830-35.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
<i>Split Rock—Continued.</i>			
vincial Govern'm't with other works. Transfer authorized by Canadian Parliament, 30th May, 1855, and accepted by O.C., 25th Jan., 1856.	Adams, John	Superintendent, Report on works	10th Sept., 1835.
	Coffin, Lieut.-Col. W....	General Agent, Ordnance property	Sept., 1856, to Jan. 78.
	Baillairgé, Geo. Fred....	Survey plans and report, Water Power..	1867.

STE-ANNE LOCK (Junction River St. Lawrence and Ottawa.)

Overcomes Ste. Anne Rapid, on Ottawa River, between Lake "Two Mountains" and River St. Lawrence. Commenced 1816.	DuVernet, Lt.-Col., R.E.	Report and estimates of proposed canal and lock to replace wooden lock of 1816.	13th Dec., 1831.
Lock built of wood, in Vaudreuil channel, by St. Andrews' Steam Forwarding Co.; to pass steamers of 20 horse-power.	Hayne, Capt., R. S. Corps	Superintending construction Ottawa River Canal	1833-34.
Rebuilt, 1832-33, by Ottawa Forwarding Co. Material, wood. Size, same as Grenville Canal.	Yule, Capt. Patrick, R.E.	Plans canal and lock	1835.
Second enlargement commenced 18th May, 1840.	Barrett, John	Superintendent, St. Anne's Lock	April, 1849.
New stone lock, north side of river, 190 x 45 ft. 6 ft. water on sills at l.w. Opened June 22, 1843.	Sippell, John G.	Superintending Engineer	1853-77.
Completed, Nov. 24, 1843.	do	Consulting Engineer	1877-1879.
Third enlargement commenced in 1873.	Page, John, sen.	Chief Engineer	1853-90.
Length of lock, 200 ft.	Henshaw, Geo. H.	Resident Engineer	Oct., 1873-83.
Breadth do 45 ft.	Gerard, Arsène	Superintendent, St. Anne's Lock	1877 to Dec., 1878.
Water on sills, 9 ft.	Baillairgé, G. F.	Superintending Engineer	22nd June, 1877-79.
Completed towards 1883.	Foreman, Thomas	Superintendent	1877.
Expenditure to 1st July, 1867, \$134,456.51.	Marceau, Ernest	Engineering staff, enlargement	Aug., '77-80.
Expenditure from 1st July, 1867, to 30th June, 1889, \$1,039,514.24.	Dacoust, Joseph Lumina.	Superintendent	18th Dec., 1878-91.
Total expenditure to 30th June, 1889, \$1,173,570.75.	Stark, David	Superintending Engineer	1st May, 1880-90.
	Aylmer, J. A.	Engineering staff	1880-81.
	Sutcliffe, John	do	July, 1881-86.
	Marceau, Ernest	Assistant Engineer	Nov., 1880-90.

ST-OURS' CANAL, LOCK AND DAM (River Richelieu.)

On Richelieu River.	Fleming, Peter	Report recommending dredging Richelieu River to avoid building lock and dam at St. Ours	1829.
Raised the river from 4 to 7 ft., enabling vessels to enter Chambly Canal, 32 miles distant. Commenced, 1844.	Hopkins, W. R.	Proposed lock and dam at St. Ours	1835.
Completed, 1st Sept., 1849.	Barrett, Alfred	Report on project	1841.
Length of canal, $\frac{1}{2}$ mile.	Walton, D. S.	Engineering staff, enlargement	1843-49.
Number of locks, 1.	McDonald, J. F.	Superintending Engineer	1848-52.
Length of lock, 200 ft.			
Breadth of lock, 45 ft.			

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
<i>St. Ours' Canal, Lock and Dam—Continued.</i>			
Water on sills (lowest) 7 ft.	Harrison, Robert Newton	Superintendent, St. Ours Lock and Dam.	6th August, 1851.
Rise or lockage, 5 ft.	Sippell, John G.	Superintending Engineer.	July, 1853-77
Expenditure prior to 1st July, 1867, \$121,537.65; from 1st July, 1867, to 30th June, 1889, \$45,174.58; total expenditure to 30th June, 1889, \$166,712.23.	Hatt, Augustus	Superintendent, St. Ours Lock and Dam.	11th March, 1853-57.
	Page, John, sen.	Chief Engineer.	1853-90.
	Larue, Lewis	Superintendent, St. Ours Lock and Dam.	Apr. 24, 1858-88.
	Baillairgé, G. F.	Superintending Engineer.	June 22, '77-79.
	Parent, E. H.	do	May 12, '80. 91.
	Codère, Alfred	Superintendent, appointed.	Sept. 1, '88.
	Papineau, L. G.	Resident Assistant Engineer.	1889-91.

ST. PETER'S CANAL, C.B., N.S. (Atlantic Ocean.)

This canal, on the Island of Cape Breton, connects the Atlantic Ocean, at St. Peter's Bay with the Bras-d'Or.			
Dimensions proposed, 20 feet wide at bottom, and 12 feet water.—Estimated cost, £17,150 4s. 5d.	Hall, Francis Benjamin.	Survey.	1825.
Estimate for canal 22 ft. wide at bottom and 13 ft. deep, £17,751 4s. 0d. Plans adopted.	do do	Report, &c., to Nova Scotia Government.	1826.
Dimensions proposed, width of canal at 10 ft. deep, 20 ft.; slopes, 1½ to 1; depth of water, 13 ft.; width at water line, 50 ft. Est. cost to complete, £34,000.	Barry, P. J. S., R. E.	Report and estimates to Nova Scotia Government.	31 Aug., '53.
Estimated cost of completion if 22 ft. wide at the bottom, \$125,943.62; if 45 ft. wide at base, \$170,005.25.	Laurie, James	Report and estimate.	16th July, '58
Commenced, 7th Sept., 1854, suspended, 1856, resumed, 1865. Completed, 5th Aug., 1869. Length of canal, 2,400 ft. No. of locks, 1. Length of lock, 122 ft. Breadth do 26 ft. Water on sills, 13 ft. Enlarged, 1875-81. Length, 2,400 ft.	Perley, Henry F.	Report and Estimate cost of completion.	8th Feb., '65.
	do	Engineer in charge.	July, 1880-90
	Fairbanks, Charles W.	Report and estimates.	1850-52.
	Folsom, C. W.	Engineer in charge of construction	1854.
	Fuller, Thomas H.		
	Martell, Henry	Commissioners Report on progress of work	31st Dec., '56
	Munro, Hugh		
	Talcott, W. H.	Report, &c., on works.	1856.
	McNab, Alex.	Engineer in charge.	July, 1865, to July, 1867
	Dunlop, Mathew	Acting Superintendent.	1869, to June 1870.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—*Continued.*

Works.	Engineers, etc.	Services.	Dates.
<i>St. Peter's Canal, C.B., N.S.—Continued.</i>			
Length of lock, 200 ft.	Kavanagh, Wallace Morgan.	Superintendent.	June 3, 1870 to 1891.
Breadth of lock, 49½ ft.			
Water on sills, 18 ft. at l.w.	Page, John, sen.	Chief Engineer.	1867-90.
Rise of tide, 4 ft.	Barclay, E. J.	Engineering staff, enlargement.	1875-81.
Cost of construction to 30th June, 1867, \$156,523.32.	Millidge, E. G.	Resident Engineer do.	1875-81.
Completion and enlargement to 30th June, 1889, \$520,743.95.	Perley, H. F.	Superintending Engineer.	May 1, 1872-90.
Total to 30th June, 1889, \$677,267.27.			
Contractors—			
John McLeod, 1855; work suspended, 7th Sept., 1856.			
Brooks, Foster & Co., contract dated 6th June, 1865.			
Patrick Purcell, 1867-69.			
S. Parker Tuck, enlargement, 1875-77.			
Assignees of Tuck and Government, 1877-81.			

TAY CANAL (Branch of Rideau Canal.)

Connects the town of Perth with the Rideau Canal <i>via</i> River Tay. Constructed by Tay Navigation Co.		Commenced in 1831 by an incorporated company.	
Length of canal, 8½ miles.			
No. of locks, 5.			
Dimensions, 101' x 20' x 4'.			
Material, stone.			
Lift of locks, 28 ft.			
Commenced 1831.			
Opened 1834.	Page, John, sr.	Chief Engineer.	1855-99.
See General Report, Department Public Works, 1867.			
Enlargement and new works commenced 1883; completed 1889.	Wise, F. A. M.	Survey and Report.	
	do.	Superintending Engineer, reconstruction.	1882-91.
W. Davis & Sons, contractors.	Taylor, Thomas Dixon.	Resident Engineer.	March, '82, to Jan. '89.
Length, 6 miles.			
No. of locks, 2.			
Length of locks, 134 ft.			
Breadth do 32 ft.			
Depth of water, 5½ ft.			
Lockage, 23 ft.			
Expenditure from 1st July, 1867, to 30th June, 1889, \$407,764.72.			

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
TROU DU MOULIN (River St. Lawrence.)			
One of the old River St. Lawrence canals. Length, 200 ft. Water, 2 to 2½ ft. on sills. Commenced and completed between 1779 and 1783.	Transferred by Imp. Govt. to Prov. Govt. with the other ordnance canals— accep. by O.C. 25 Jan. '56 Twiss, Capt., R.E. do Mann, Col. Gother, R.E.	This work was designed by Governor Haldimand; was re-placed by another canal at the foot of the Cascades Rapids in 1804. Superintending Engineer..... Report on canals to Imperial Government. do do	1779-1783. 1781. 24th December, 1800.

WELLAND CANAL (Between Lakes Ontario and Erie.)

Connects Lakes Ontario and Erie, carrying navigation around the Falls of Niagara.	Gourlay, Robert	Views respecting projected canal.....	1819.
Commenced 30th Nov., 1824. Completed, 30th Nov., '29.	do	"Statistical account of Canada," with map of district, and necessity for the canal, published in London.....	1822.
Constructed by a company with Imperial and Provincial aid.	Tibbet, Hiram.....	Description of a projected canal.....	1823.
No. of locks, 40. (Wooden). Dimensions, 100' x 22' x 7½'. Length of canal, 23 miles. Rise or lockage, 330 ft. Depth of water prop, 8 ft. Resolution to purchase stock of company passed Assembly, April, 1839.	Clowes, Samuel..... Clowes, James..... Cusack, Rheddy..... Roberts, Nathan S. (Eng.) do	Proposed works	1824.
Canal became public property 5th July, 1841.	Smyth, Major Gen. Sir Jas. Carmichael	Survey and report.....	10th August, 1824.
<i>First Enlargement.</i>	Barrett, Alfred.....	Reports on levels, surveys, etc.....	10th and 24th May, 1824.
Commenced 1841. Completed 1845 to Port Maitland and in 1850, to Port Colborne. Length of canal, 27½ miles. No. of locks, 27. Material, stone. Dimensions, 150 x 26½ x 8½, except guard lock, Port Colborne, 220 x 45, and 2 locks between Lake Ontario and St. Catharines, 200 x 45 feet. Water on sills 9 feet. In 1853-54 the depth of water was increased to 10½ feet by raising banks and dredging.	Thompson, David..... Rendall, James M. Keefer, Geo., jr..... Donaldson, John..... Farnsworth, S. H. Wright, Benjamin	Examined route with Clowes and Hall. Report..... Engineering Staff construction, appointed	Aug. 28, '24. 1st April, '25.
<i>Second Enlargement.</i>	Hall, Francis Benjamin..	Examined projected canal route with Messrs. Clowes and Roberts.....	1824.
Commenced 1873. Completed 1882 to 12 ft. Completed 1887 to 14 ft.	Smyth, Major Gen. Sir Jas. Carmichael	Examined works, reported favorably....	Prior to 1826.
6***	Barrett, Alfred.....	Resident Superintending Engineer, appointed.....	10th May, 1826.
	Lapham, Mr.	Ast. Engineer Welland Canal Co.	Augt. 1827.
	Thompson, David.....	Principal Consulting Engineer	1824-28.
	Rendall, James M.	Report on progress.....	31st May, '30.
	Keefer, Geo., jr.....	Superintending Engineer.....	1833.
	Donaldson, John.....	Superintendent of works.....	23rd Feb., 1833.
	Farnsworth, S. H.	Assistant Superintendent of works.....	March, 1833.
	Wright, Benjamin	Projected enlargement	1833.
	Callahan, —.....	Superintendent. Division of Canal.....	386.
	Baird, N. H.	Report on projected enlargement.....	1837.
	Robinson, William B.	Superintendent	1st Oct., '37.
	Killaly, Hamilton H.	Survey with N. H. Baird for enlargement	1837.
	Woodruff, Samuel D.	Superintendent	1839-71.
	Phillipotts, Lt.-Col., R.E.	Report on proposed enlargement	1841.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—*Continued.*

Works.	Engineers, etc.	Services.	Dates.
<i>Welland Canal—Con.</i>			
Length of canal, 26 $\frac{3}{4}$ miles.	Keefer, Samuel.....	Chief Engineer, Public Works.....	1841-52.
No. of locks, 27.		Report on proposed enlargement.....	14th Feb., 1873.
Length of locks, 270 ft.	Keefer, Thos. C.....	Assistant Engineer.....	1842-45.
Breadth do 45 ft.			
Water on sills, 14 ft.			
Rise or lockage, 326 $\frac{3}{4}$ ft.			
<i>Branches Welland Canal.</i>			
River Branches—Length $\frac{3}{4}$ mile; two locks 150 x 26 x 9 $\frac{3}{4}$ feet.	Page, John, sr.....	Asstt. Engineer and Draughtsman.....	1842.
	do.....	Consulting Engineer.....	1846.
Grand River Feeder—Length 21 miles, 45 locks, one 200 x 45 x 9 and the other 150 x 26 $\frac{1}{2}$ x 9 feet.	do.....	Chief Engineer.....	1854-90.
	do.....	Survey proposed enlargement begun.....	1870.
Port Maitland Branch—Length 1 $\frac{3}{4}$ miles, one lock 185 x 45 x 11 feet.	do.....	Reports on enlargement of Canals, Lake Erie to Montreal.....	1872-77.
	Buchanan, W. O.....	Assistant Engineer.....	1843.
Expenditure by Imperial Government, \$222,220.00; expenditure by Provincial Government prior to 1st July, 1867, \$7,416,019.83; expenditure from 1st July, 1867, to 30th June, 1889, \$16,149,710.47. Total expenditure to 30th June, 1889, \$23,787,950.30.	Slater, J. D.....	Engineering Staff.....	1842-46.
	Barrett, Alfred.....	Asst. Chief Engineer, locating works.....	1826, 42-43.
Directors Welland Canal Company, appointed 15th May, 1824:—Hon. Sir John Henry Dunn, Wm. H. Merritt, Geo. Keefer, John Decou, Samuel Clowes.	Power, Samuel.....	Principal Engineer.....	1842-45.
	do.....	Specifications for construction of locks.....	Oct., 1843.
Commissioners to superintend expenditure of money, Welland Canal, appointed 13th February, 1833:—Wm. B. Robinson, Absalon Shade, John McAulay.	Pritchard, M. B.....	Assistant Engineer, Welland Canal.....	1843-44.
	Keefer, Samuel H.....	Superintending Engineer construction.....	24th June, 1846.
The first vessels that passed through the Welland Canal, from Lake Ontario to the Welland River, were the "Annie and Jane" and "R. H. Boughton," 30th November, 1829.	Shanly, Walter.....	Consulting Engineer.....	1846.
	Stoker, Geo.....	Report plan and estimate.....	Oct., 1854.
	Monro, Thomas.....	Assistant Engineer.....	1864.
		Survey and locating enlargement.....	1870-71.
	Fellowes, Chas. L.....	Engineering staff, enlargement.....	1870-76.
	Brunel, A.....	Superintendent.....	1871 to 1874.
	Thompson, Wm. G. McN.....	Resident Engineer, South Division, enlargement.....	1872-88.
	Secord, Wm. F.....	Engineering staff, South Division, enlargement.....	Oct., 1872.
	Leslie, William Lewis.....	do do.....	Oct., 1872.
	Odlum, John Ed.....	Asst. Engineer, South Division, enlargement.....	1872-1888.
	Monro, Thomas.....	Engineer in charge of works.....	July, 1872 to 31st Jan'y, 1873.
	Gzowski, Col. C. S.....	Report on proposed enlargement.....	14th Feb., 73
	McAlpine, Hon. W. T., of U. S. A.....	do do.....	14th Feb., 73
	Monro, Thomas.....	Resident Engineer, North Division, enlargement.....	1873-1888.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—Continued.

Works.	Engineers, etc.	Services.	Dates.
<i>Welland Canal—Con.</i>			
Note.—Oliver Phelps was contractor for the works on the 4th of August, 1827.	Curran, Veysie.	Asst. Engineer, South Division, enlargement	Nov., 1873 to 1st Jan., '89
	Dickinson, Jos. E.	Asst. Engineer, North Division, enlargement	15th July, '74 to 30th Dec., 1879.
	Bodwell, E. V.	Superintendent.	1874 to 1st Jan., 1890.
	James, C.	Engineer, South Division, enlargement ..	1875.
	Kelly, Athol D.	Engineering staff, North Division, enlargement	1875.
	McNaughton, Chas E. ...	do do	1875.
	Merritt, Thomas	do do	1875.
	Simpson, Frank.	do do	1876.
	King, Chetwood Henry Waters.	Engineering staff, South Division, enlargement	Feb., 1883, to Nov., 1888.
	French, Barnard J.	Engineering staff, North Division, enlargement	1876.
	Fellowes, Chas. L.	Engineering Staff, Surveys	1870-76.
		Asst. Engineer, North Division, enlargement	1st July, '76-1882.
	Townsend, T. B.	Contractor, lock gates.	1880.
	Ellis, William	Superintendent, appointed.	1st Jan., '80.
	Willet, Herbert Alfred. .	Engineering Staff, South Division, enlargement	Aug., 1881-88
	Crawford, William.	Asst. Engineer, deepening to 14 feet.	1st June, '86 to 1st Aug., 1887.

WHITLAS' RAPIDS, LOCK, &c. (River Trent.)

Part of Trent River navigation, to connect Bay of Quinté, Lake Ontario, with Lake Huron, distance direct, 112 miles; <i>via</i> proposed river route, 235 miles; lockage rise, 589½ feet; fall, 243½ feet; total, 832½ feet. Commenced, 1837. Completed, 1843. Dimensions of lock, 133½ x 33 x 5 ft.	Bethune, J. G.	Commissioners superintending Newcastle District Works.	1833.
	Brown, Robert.		
	Hall, John.		
	Reed, Thomas.		
	McDonell, A.		
	Baird, N. H.	Reports, &c.	1833-43.
	Rubidge, F. P.	Compiled map Trent River.	1836.
	Baird, N. H.	Superintending Engineer.	1837.
	Killaly, Hamilton H.	Report, prior to.	1843

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—*Continued.*

Works.	Engineers, etc.	Services.	Dates.
<i>Whittas Rapids, Lock, &c.</i> —Continued.			
For cost Trent River Navigation, See "Bob- caygeon Canal."	Keefer, Samuel.....	Chief Engineer.....	1841-52.
	do	Special report.....	1846.
	Rigney, James.....	Asst. Engineer.....	1843-49.
	Lyons, James.....	do	1843-49.
	Page, John, sen.....	Chief Engineer.....	1853-90.
	Ranney, G. W.....	Superintending Engineer.....	1855-73.
	Baillaigé, G. F.....	Assistant Chief Engineer.....	1871-79.
	Belcher, Thomas D.....	Reports and Estimates, Trent R. Works.	1863-74.
		Superintending Engineer.....	1873-84.
	Rogers, R. B.....	Asst. Engineer.....	1878-81.
	do	Survey Trent Valley District	1882-83.
	do	Superintending Engineer.....	1st July, '84- 1891.
	Perley, H. F.....	Chief Engineer.....	1880-91.

WIDOW HARRIS OR NINE-MILE RAPIDS (River Trent).

Part of projected Trent River navigation, Bay of Quinté, Lake Onta- rio, to Lake Huron—	Bethune, J. G.....	Commissioners superintending Newcastle District works.....	1833.
	Brown, Robert.....		
	Hall, John.....		
	Reed, Thomas.....		
	McDonell, A.....		
From Trenton, up to this locality, the Trent is a continuous rapid for 9 miles; thence to Chis- holm's Lock, navigation commences.	Baird, N. H.....	Report on project	1833-36.
	do	Superintending Engineer.....	1837-41.
	Rubidge, F. P.....	Compiled map Trent River.....	1836.
	Keefer, Samuel.....	Chief Engineer.....	1841-52.
	Killaly, H. H., sen.....	Report prior to	1843.
For cost of Trent River Navigation, See "Bob- caygeon Canal."	Rigney, James.....	Assistant Engineer	1843-49.
	Lyons, James	Superintending Engineer.....	1843-55.
	Page, John, sen.....	Chief do	1854-80.
	Ranney, G. W.....	Superintending do	1855-73.
	Baillaigé, Geo. Fred....	Assistant Chief Engineer.....	1871-79.
		Reports and Estimates, Trent R. Works.	1863-74.
	Rogers, R. B.....	Asst. Superintendent	1878-81.
	do	Survey Trent Valley Canal	1882-83.
	do	Superintending Engineer.....	1884-88.
	Perley, Henry F.....	Chief Engineer.....	1880-91.

PUBLIC WORKS and their Engineers, &c., Canada—Canals, 1779-1891—*Continued.*

Works.	Engineers, etc.	Service.	Dates.
WILLIAMSBURGH CANALS (River St. Lawrence.)			
<i>See</i> Farran Point, Rapide Plat, Point Iroquois, Galops and Junction Canals. Commenced, 1844. Completed, 1847. Expenditure by Provincial Government prior to 1st July, 1867, \$1,320,655.54. Expenditure from 1st July, 1867, to 30th June, 1889, \$504,098.68. Total expenditure to 30th June, 1889, \$1,824,754.22.	Mills, J. B.	Reports and surveys, projected works . . .	1833-43.
	do	Superintending Engineer	1843 to June, 1847.
	Wright, Benjamin.	Projected canals	1833.
	Geddes, —	Consulting Engineer	1834.
	Fleming, Peter	Superintending and Consulting Engineer . . .	1834.
	Killaly, H. H., sen.	Chairman Board of Works	1841-46.
	Keefer, Samuel	Chief Engineer Public Works	1841-52.
	Phillpotts, Col. R. E.	Report, &c.	1843.
	Rubidge, Thos. S.	Engineering staff	1844-48.
	Page, John, sen.	Resident Superintending Engineer	1850-53.
	do	Chief Engineer	1853-90.
	Baillairgé, G. F.	Resident Superintending Engineer	1853-56.
	Macdonell, Alex. G.	Assistant Chief Engineer	1871-79.
		Superintendent	26th April, 1875-1889.
	Rubidge, Thomas S.	Died	27th Jan., '89
		Superintending Engineer, enlargement . . .	1880.
		Superintendent, appointed	18th Oct., '89
		Died	13th May, '90
	Reid, John D.	Acting Superintendent	1st May, '90.
YAMASKA RIVER (South side of River St. Lawrence.)			
Lock and dam at Ile à Cardin, enables vessels to ascend Yamaska River 20 miles to 'Rapide de la Grosse Roche.' Commenced, Aug., 1881. Opened, 2nd Sept., 1885. Length of lock, 162½ ft. Breadth do 31 ft. Depth of water— Lowest, 5½ ft. Highest, 10½ ft. Expenditure to 1st July, 1890, \$124,792.39.	Perley, Henry F.	Chief Engineer	1880-91.
	Michaud, C. E.	Resident Engineer	1880-88.
	Mooney, Wm.	Assistant do (Died 2nd January, 1885).	1880-84.
	Berlinguet, Thos	Engineer in charge	1888-91.
		The first contract for this work was signed Messrs. Goherty, Brecken and Davis, contractors. They abandoned the work, and a contract was entered into with Messrs. McCannon & Cameron on the	Aug., 1881.
		Lock completed and in working order . . .	3th July, '84. 2th Sep., '85.

PUBLIC WORKS and their Engineers, &c., Canada—Graving or Dry Docks.

Works.	Dimensions and Expenditure.	Engineers, Contractors, &c.	Dates.
<i>Esquimaux Graving Dock.</i>			
Work authorized by Act of Provincial Government of British Columbia, 43 Vic., cap. 8. Situate on Vancouver Island, about three miles below Victoria. Plans of dock and caisson prepared and furnished by Government of British Columbia—and exhibited, former, 18th Nov., 1879; latter, 1st Dec., 1882. Completion by Dominion Government, authorized by Act 47 Vic., cap. 6. Agreement between British Columbia Government and Government of Imperial Government, under sanction of Imperial Government, respecting construction, signed, subsequent to 12th July, 1880. Graving dock and ground transferred to Dominion Government, and work commenced, under authority of Act 47 Vic., cap. 6.	As completed up to 1890— Length at centre, 430 feet. Width at bottom, 41 do on floor. do coping level, 90 feet. do entrance, 65 do Depth of water on sills, 26½ feet at H. W. Springs. Spring tides, rise, 7 to 10 feet. Neap tides rise, 5 to 8 feet. Expenditure— Pro. Govt., B. Columbia... \$384,512 66 Imperial Government... 243,333 33 Dominion Government... 529,214 42 Total to 17th Dec., 1889, \$1,157,060 41	Trutch, Hon. J. W., Engineer in charge Beunett, W., Resident Engineer Perley, Henry F., Chief Engineer Public Works..... <i>Contractors.</i> McNamee & Nish, under British Columbia Government Their contract cancelled by Government of British Columbia and work carried on by day's labour... Larkin, Murphy & Connolly, for completion of work under the Dominion Government; contract signed, 10th July, 1885. Dominion Bridge Co., Montreal, for caisson... Watt, James, & Co., London, Great Britain, pumping machinery.	24th Nov., 1883 do 1884-91.
Dock completed and opened to H. M. S. "Cormorant," in July, 1887.		Devereux, John, Dockmaster Muir, A., C. Engineer Grieve, A. D., Carpenter	17th Sept., 1887. 1st April, 1887. 1st Dec., 1887.

PUBLIC WORKS and their Engineers, &c., Canada—Graving or Dry Docks—Continued.

Works.	Dimensions and Expenditure.	Engineers, Contractors, &c.	Dates.
<i>Halifax Graving Dock.</i>			
Situate at Halifax, N. S. Constructed by Halifax Dry Dock Company, incorporated in Great Britain. Agreement with Public Works Department, Canada, signed 13th February, 1886. Work commenced 1st May, 1886. Opened by Admiral Watson, Commander-in-Chief N. A. and W. I. Station, Canada, 1st May, 1886, and W. I. Station, H. M. S. "Cashmere" docked 20th September, 1886. Approved by Henry F. Perley, Chief Engineer, Public Works Department, 21st September, 1889.	Length, 585 feet. Width at coping level, 102 feet. do entrance 89½ do do bottom 72 do Water on sills— Ordinary spring tides, 30 feet. Spring tides rise 6 do Neap do 3 do Subsides— Imperial Government, per annum for 20 years, \$10,000. Dominion Government, per annum for 20 years, \$10,000. City of Halifax, per annum for 20 years, \$10,000. Total cost, about \$1,000,000.	Keating, E. H., Superintending Engineer construction 1886-89. do Resident Chief Engineer 1889-91. Perley, Henry F., Chief Engineer, Public Works Department 1889-90. Pearson & Son and Brookfield, Messrs., contractors 1886. Brookfield, Samuel M., local contractor 1886-89. McPherson, David, Dockmaster 1889-91.	1886-89. 1889-91. 1889-90. 1886. 1886-89. 1889-91.
<i>Kingston Graving Dock.</i>			
Situate at the City of Kingston, north side Lake Ontario. Commenced 23rd April, 1889. Estimated date of completion, 23rd April, 1891. Estimated cost, \$260,680.75.	Length on floor, 280 feet. Width at coping level, 79 feet. do entrance 55 do Width on floor, 47 feet. Depth from coping to floor, 26 feet. do of water on sills at low water, 15½ ft. Height of water varies 3½ feet.	Strong, W. O., Engineer in charge 1st Dec., 1888-91. Perley, George E., Assistant Engineer June, 1888-91. Perley, H. F., Chief Engineer Public Works 1889-91. Contractors. Connolly, N. K. } Connolly, M. }	1st Dec., 1888-91. June, 1888-91. 1889-91. Contractors. 23rd April, 1889.

PUBLIC WORKS and their Engineers, &c., Canada—Graving or Dry Docks—Continued.

Works.	Dimensions.	Feet.	Harbour Commissioners, Quebec.	Appointed.	Engineers, Contractors, &c.	Dates.
<i>Lévis Graving Dock.</i>	Length:—	495	<i>Under Act, 36 Vic., cap. 62.</i>			
Work authorized by Act 38 Vic., chap. 56, 1875.	With a circular head. Radius	31	Grant, Thos. H.	a Oct.	2, 1873 Kinipple & Morris, Superintending Engineers.	1875-1882.
Situated at Point Lévis, on the St. Lawrence, opposite the City of Quebec.	And a square off-set each side	19	Giblin, John	a do	2, 1873 Fraser, Cecil, Asst. Engineer.	1875-82.
	Breadth at entrance.	62	Ross, James G.	d Aug.	6, 1873 Boswell, St. George, Engineer.	1876-1889.
Site chosen, by Order in Council, May, 1877.	do bottom	73	Gilmour, John	d July	28, 1875 ing Staff.	1876-1883.
Work commenced, under Harbour Commissioners of Quebec, 1878.	do coping level	100	Sharples, John	d Aug.	6, 1873 Pilkington, Woodford, Resident Engineer.	1883-1887.
Completed, under Department of Public Works, Sept., 1883-89.	Depth of water on sill at H. W. ordinary spring tides	253	Dobell, R. R.	b do	4, 1873 Boyd, John Edward, Resident Engineer.	Sept. 1883-90.
	Depth of water on sill at H. W. ordinary neap tides	23	Simmons, J. H.	c June	6, 1874 Perley, H. F., Chief Engineer, Public Works.	April 1, 187-90.
	Depth of water on sill, at L. W. ordinary spring tides	71	do	a Mar.	3, 1874 Langevin, H. LaForce, Asst. Engineer.	1889-90.
	Depth of water on sill, at L. W. ordinary neap tides	10	Fraser Alex	b June	Valiquet, Ulric, Engineer in charge	13th Oct., 1890.
<i>Princess Louise Basin, mouth of St. Charles River, Quebec.</i>			<i>Under Act 36 Vic., cap. 55.</i>			
Authorized by Act 36 Vic., chap. 52, sec. 17.	Princess Louise embankment and quay wall on north side of first projected series of docks:—	3,960	Thibaudeau, Hon. Isidore.	a Mar.	Contractors.	
Work commenced, under Harbour Commissioners, Quebec, 28th May, 1877, and completed, under H. F. Perley, Chief Engineer, Department of Public Works, 1889.	Length of north wall and embankment	330	Chauveau, Hon. S. I. O.	a do	Larkin, Connolly & Co.—masonry, &c.	17th Aug. 78-83.
	Width	do	Woods, Alex.	a do	do dredging	1882, 1883-88.
			Shewyn, Joseph.	a do	do masonry.	30th Mar., 1880.
			Fry, Henry.	d August.	Carrier, Laine & Co., pumping machinery.	7th Jan., 1880.
			Burstall, John	d do	Wigham, Richardson & Co., contractors for caisson, &c.	
			+Dobell, R. R.	b Nov. 22, 1876	Engineers.	
			do	a Jan. 5, 1876	Plunkett, E. W., estimates, plan, &c., to Harbour Commissioners.	15th Dec., 1874.
			do	a do	2, 1880 Baillarge, Charles, plans, &c.	1874-76.
			do	a do	5, 1880 Berlinguet, F. X., plans, &c.	1875.
			do	a do	7, 1876 Sewell, Alex., plans, &c.	6th April, 1875.
			do	a do	6, 1877 Kinipple & Morris, M. I. C. E., Superintending Engineers.	1875-1882.
			do	a do	29, 1876 Fraser, Cecil, Asst. Engineer.	1875.
			do	a do	1, 1877	

Pontic Works and their Machinery &c., Canada—Graving or Dry Docks.

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